AMERICAN CINEMATOGRAPHER

FOR AMATEUR AND PROFESSIONAL PHOTOGRAPHERS

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Cinematographers

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BLAISDELL

Tollywood Designs
New Meter
STULL

Sheeps' Blood in
Color Work
HOKE

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SPRUNGMAN

Stereoscopic 8mm.
Color Films
WOOD

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Camera Marvels
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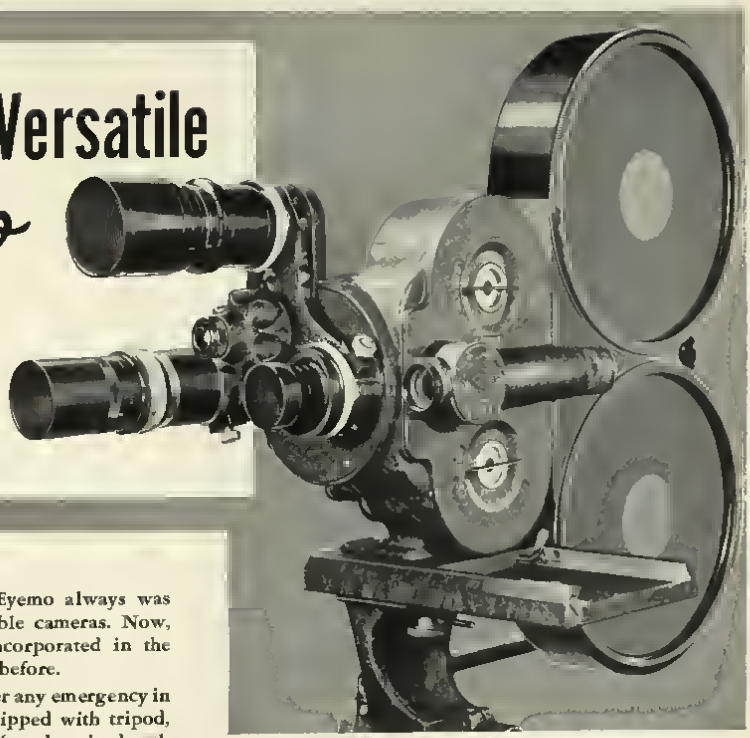

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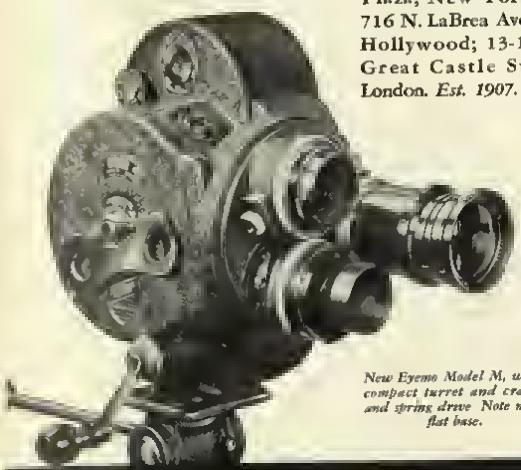

New Eyemo Model M, with compact turret and crank and spring drive. Note new flat base.

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Front Cover

Here is one of the final sequences in the making of "Broadway Serenade" by M-G-M. Jeannette MacDonald, the ster, is shown at the top of the tower immediately opposite the camera mounted on the boom. Oliver T. Marsh directed the photography on this Robert Z. Leonard production. The still was the work of Virgil Apgar.

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ARNOLD AGAIN HEAD OF A.S.C.

By GEORGE BLAISDELL

JOHN ARNOLD again is president of the American Society of Cinematographers. He was elected on April 11, succeeding Victor Milner, retiring after two years in the chair. It was an even two years ago that Mr. Arnold had retired after seven years in the presidency, believing he had done his bit for good and a'

The members of the board of directors, however, declared otherwise when faced with the job of filling the chair They wanted Arnold, and when they had concluded their statement of reasons Arnold it was.

Ray June, who had just been re-elected to the board by an unusual and even a remarkable vote, was chosen first vice president. Second and third vice presidents respectively were Ted Tetzlaff and Joseph Valentine. The office of treasurer was combined with that of secretary, Frank B Good, who for several years had filled the latter office, being chosen for the combined posts. Frederick L. Kley was re-elected executive vice president of [illegible] The board of governors as [illegible] constituted for the coming [illegible] follows.

John Arnold, John W. Bo[illegible] G. Clarke, Robert De Gras[illegible] Edeson, George Folsey, Alfr[illegible] Frank B. Good, Ray June, [illegible] Lang, Jr., Hal Mohr, Charl[illegible] Ted Tetzlaff Joseph Valentin[illegible] Walker.

The new members of the b[illegible] Messrs. Clarke, De Grasse and [illegible] time.

John Arnold is more than a cinematographer He was one [illegible] first to induce his fellow-craftsmen get together and work together [illegible] mutual advancement of the [illegible] their product and for the recogn[illegible] their craft—not only in the studio [illegible] in the world at large.

He was one of the five men w[illegible] the early days of motion picture[illegible] days when these were known only as moving pictures—formed the [illegible] Camera Club Later a branch [illegible] same body was organized in L[illegible] geles. This was succeeded later by the Static Club In 1918 the A. S. C. [illegible] formed.

This action quickly was follow[illegible] January, 1919, by the formal [illegible] poration of the association. That [illegible]

John Arnold again heads the A. S. C

Ray June, first vice president A.S.C

the society is now well on its way to its second double decade.

Arnold was a truly young man when he started, in 1906, in the studio of Thomas A. Edison in the Oranges, New Jersey. The inventor who in later years was to be recognized everywhere as one of the first in the development of motion pictures was a man of a multitude of interests. Motion pictures was but one of many.

It was in work other than that of the screen that Arnold was placed. In school and university he had specialized in scientific engineering and there were numberless spots outside of the picture division in the Edison plant where work was uncovered for him to do.

One of the Pioneers

Arnold had not been long employed, however, before gradually he found himself a part of the new and rapidly developing industry known as moving pictures. In the Edison studio he became one of the pioneers in the making of sound pictures—twenty years before that angle of the screen's activities became a permanent part of film history.

In 1908 there were pictures of Harry Lauder as he sang his songs and danced before the camera. This present fact was revealed by a remark of this reporter that he recalled seeing a good sound picture of Harry Lauder, which brought forth a reply from the new president of the A. S. C.:

"Yes, I shot it—as well as others of Eva Tanguay and quite a number besides."

At that time the records were made first and afterward played back practically on the same system as is pursued today on some special occasions. That the plan was not followed up was due to the inability to maintain synchronization in the theaters. Projection was a new thing and practically anybody could—and did—qualify as an operator.

Decision to cease production operations was sudden, so sudden in fact that two sound pictures which had been completed were never released.

How Operators Were Lifted

Just to digress for a moment it was not long after that period that Frank Richardson, who conducted a projection department in the Moving Picture World, began a militant campaign to impress upon operators that they were projectionists.

"Projectionists is your word, I'll tell you, fellows," he insisted. "It has a sound that is 'tony.' You adopt it and stick to it and you'll find it will double your salaries, if—you study hard and learn a lot of things more than just turning a crank."

Operators became projectionists, they studied hard; Richardson among others wrote books on projection, which the projectionists profited by. And for quite a number of years Richardson has been known in the Society of Motion Picture Engineers and in the industry at large as a projection engineer.

And when sound came in ten years ago the projectionists were all set to project it—and to project it in a manner that rated practically 100 percent.

Arnold, who for many years has been head of the camera department at MGM, for twenty-five years has been continually in the employ of the several companies that in 1924 gradually merged into the present organization.

Twenty-five years in one institution—especially one which several times has changed its title and its personnel generally—is something of a record. And by the same token eight years as chief of the A. S. C. also is another record.

AGFA ANSCO'S HISTORY REACHING FOR CENTURY

IN a handsomely printed booklet of twenty-eight pages and cover Agfa Ansco Corporation tells "The Story of Agfa Ansco." It is a long story, even if briefly and graphically told—a story that lacks but three years of making it an even century. The hundredth year of photography is being celebrated this present year. The centennial of Agfa Ansco will be commemorated in 1942.

Shortly after the invention of photography by Jacques Daguerre the latter was visited in Paris by Professor S. F. B. Morse, later the originator of the telegraph, who following his return to America bestowed upon Edward Anthony his somewhat necessarily scant knowledge of the new work.

Anthony had just been graduated from Columbia University, where he had specialized in mathematics and engineering. He quickly became proficient in the new process. When he photographed highlands along the Canadian border his pictures enabled the American Government to establish its boundary claim. These were the first photographs ever made or used by a government.

In Washington the committee on military affairs gave Anthony use of its committee rooms for his sittings. Success followed his venture in the capital city. He decided to enter business as a dealer in daguerreotype materials. In 1842 he established a photographic supply house under the name of Edward Anthony at 308 Broadway, New York.

In 1852 the firm was enlarged by admission of the older brother, Henry. In the same year the firm conducted the first photographic prize contest and aroused much interest. In 1862 Henry took an active interest in the business.

Gradually the brothers became manufacturers as well as dealers. Henry Anthony is credited with being the first to take an instantaneous photograph—becoming the father of the snapshot.

Collodion Process in Use

During the period of the Civil war the wet collodion process came into use. Thereby plates were coated with light-sensitive material immediately before use. This permitted shorter exposures and the making of extra prints. During the Civil war Matthew B. Brady, famous photographer of the period, used Anthony materials for this process. The next development was the gelatin dry plate.

With that came the dropping of the cumbersome accompanying material taken along by the photographer. In 1880 the Anthonys put on sale their first gelatin dry plates and four years later their first hand cameras.

In 1887 the Rev. Hannibal Goodwin invented roll film. Frequently he was in these days in consultation with the Anthonys, who later marketed his creation. The invention was followed by the devising of cameras that would permit use of the film.

Following the deaths of the brothers in the eighties, while the company was being guided by Richard, son of Edward, the combination of Anthony and Scovill was made. The Scovill Manufacturing Company had been creating metal products since 1802. It began to make daguerreotype plates in 1842 in its photographic department.

In 1902 the company became Anthony and Scovill. At this time its manufacturing facilities were changed from New York to Binghamton. Five years later the name was changed to Ansco, the "An" representing Anthony, and the "sco" the first syllable of Scovill. The present name of Agfa Ansco Corporation was adopted in 1928 when the American interests of the Agfa Film organization were merged with Ansco.

In the book there are other chapters heavily illustrated entitled "Two Motion Picture Academy Awards," "How Agfa Film Is Made," "Agfa Papers Outstanding," "From a Sheet of Steel to a Camera," "Other Binghamton Facilities," and "What Stands Behind the Agfa Trademark."

Large Lighting Order

Paramount and R K O-Radio Pictures have placed orders for lighting equipment recently totaling over $60,000, one of the largest in Hollywood in some time. The volume amounted to over 500 units in each case and came from the shops of Bardwell and McAlister. All of the equipment is designed to be adaptable for fast black and white and Technicolor film.

Hollywood Engineer Designs New Type Meter

By Wm. Stull, A.S.C.

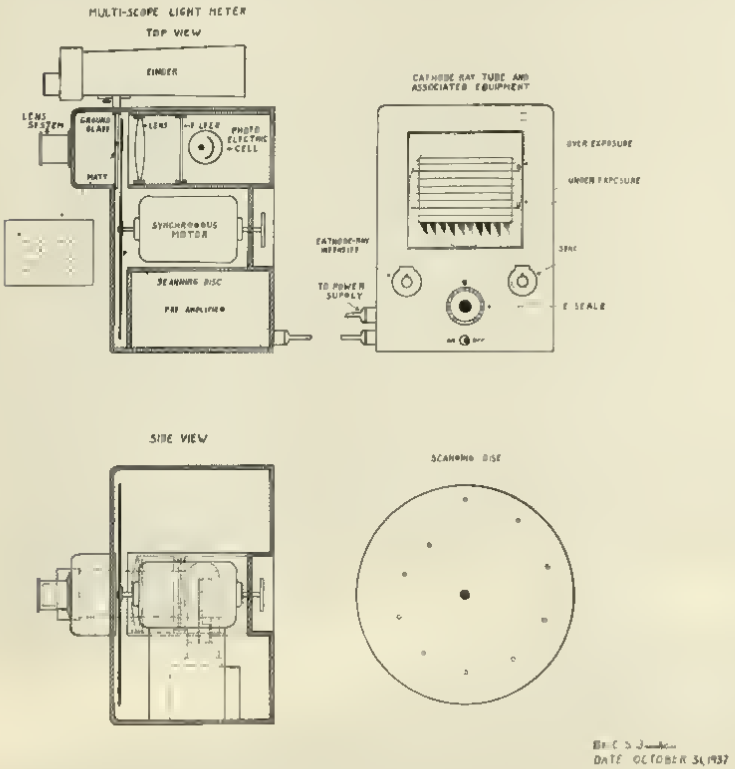
DURING recent months several outstanding figures in the cinematographic world have expressed the hope that it might be possible to develop a photoelectric light meter capable of giving selective readings of both brightness and contrast of any desired part of a scene, and that such a meter might be built into the camera.

It is therefore doubly interesting to learn that a meter closely conforming to these ideas actually has been designed by a Hollywood engineer.

The designer is Charles S. Franklin, creator of several photoelectric instruments already in use in Hollywood laboratories and studios. He has named the device the "Multiscope Light Meter" and points out that it will make it possible to obtain both overall and selective readings quickly and easily from the camera position, and if necessary even through the same lens used in photographing the scene.

The device will give a direct measurement of lighting contrast and can be coordinated to match the speed and color sensitivity of any type of material, including even infra-red sensitive film.

This meter gathers the light to be measured through a lens, preferably one covering the same angular field as that covered by the camera lens. This lens forms an image upon a ground glass screen in the usual manner.



Directly in front of the ground glass is placed a thin opaque matte, perforated with a large number of very small holes, arranged in a predetermined pattern.

Like Series of Shutters

Behind the ground glass is a scanning disk, revolved by a small, synchronous motor. The holes in the scanning disk are so arranged that when the disk is rotated each hole in the matte is individually scanned; in other words, the scanning disk acts like a series of shutters for the innumerable tiny perforations in the matte, so that only one of the holes is passing light at any one time, while all are revealed and obscured in quick and regular succession.

Behind the scanning disk, a condensing lens concentrates the light received through the system upon a photoelectric cell. If necessary, a filter may be placed in front of this cell, to coordinate its color sensitivity with that of the film being used.

Since photoelectric cells are available having a sensitivity extending well into the infra-red even this "invisible light" can be metered with such an instrument.

The current generated by the light in the photoelectric cell is amplified and passed on to a cathode-ray oscillograph, which serves as the indicating dial of the meter.

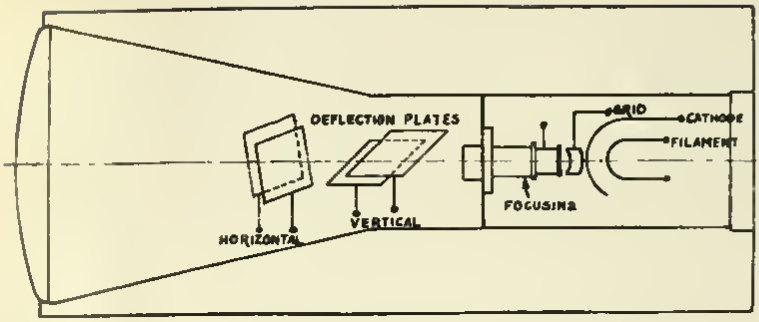
Since this instrument, while well known in sound recording, radio and television, is relatively unfamiliar to the photographic world, a word of description may be advisable.

Cathode-Ray Tube

The heart of this oscillograph is a cathode-ray tube, which, reduced to its simplest terms, is an electron gun, which shoots a stream of electrons along its length.

At the opposite end the tube widens to form a screen which is coated with salts which glow when bombarded by the electron beam. When properly focused the stream is visible on the screen as a small, luminous spot.

The electron stream passes between two sets of plates, one pair mounted horizontally, the other vertically. When current is applied to one pair of these plates, appropriately polarized, negative and positive, the electron stream is de-



Operating principles of Cathode-Ray tube.

beam may be bent up or down, or from right to left, or any combination of them.

The electron stream reacts instantaneously to any change in the currents applied to the plates, so the device may be used to form the most intricate of patterns, including the images seen in a television receiver, sound-wave patterns, etc.

In the operation of the Franklin multiscope light meter the image is divided up into a large number of tiny light spots by the perforated matte in front of the ground glass.

The synchronous motor turns the scanning disk past the matte openings in such a manner that each hole is uncovered or scanned in turn, the light spot thus caused being picked up by the condensing lens and focused on the photocell.

The output of the photocell is amplified and applied to the vertical plates of the cathode-ray tube—that is, the plates which cause the electron beam to move up and down.

Actions Interlocked

The horizontal plates, which move the beam from left to right, are energized by a timing circuit fed by the same power source that drives the synchronous motor impelling the scanning disk.

Thus the action of the scanning disk and the horizontal movement of the electron beam back and forth across the field are interlocked.

Thus the horizontal position of the cathode-ray beam depends upon the location of the particular matte opening being scanned at any time, while the vertical deflection of the beam depends upon the brightness of that spot.

The resulting pattern consists of a number of vertical lines, each of which represents one of the minute picture areas being measured.

The length of each line is a measure of the light value received from that particular point in the picture. Thus a very bright spot would be represented by a tall line, and a dark shadow by a short line.

For practical use a finder of the usual type can be fitted to the instrument. Upon the ground glass of this finder can be ruled fine horizontal and vertical lines corresponding to the openings in the meter's matte.

The readings corresponding to points on the vertical rulings on the finder's screen will appear in corresponding positions on the meter's oscillograph, while the ones corresponding to the horizontal rulings will appear between them.

Thus if one wants to determine the brightness at a position visible in the finder as being at the intersection of vertical line "E" and horizontal line 5, all that is necessary is to locate the calibration beneath the indicator-dial representing Section E and measure the height of Line 5 in that section.

The higher the line the brighter the intensity of light being received from the particular spot being read.

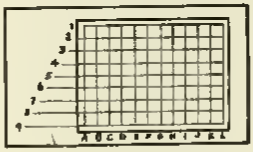
Readings Made Easily

The cathode-ray screen used for this may be of almost any convenient size, and may if necessary be further magnified by a simple viewing lens, so that readings for even a relatively large number of image points may be made easily, with all the image points represented on the screen without overcrowding or complication.

The instrument can be calibrated so that a given gain setting of the amplifier will represent a given emulsion speed. The limits of over and under exposure can be definitely fixed as two heavy horizontal lines on the scale. With such limits clearly marked, it would be easy to tell at a glance whether any portion of the scene area was

(Continued on Page 230)

PICTURE FINDER SHOWING CROSS-HAIRS AND INDEX



CATHODE-RAY SCREEN AND INDEX

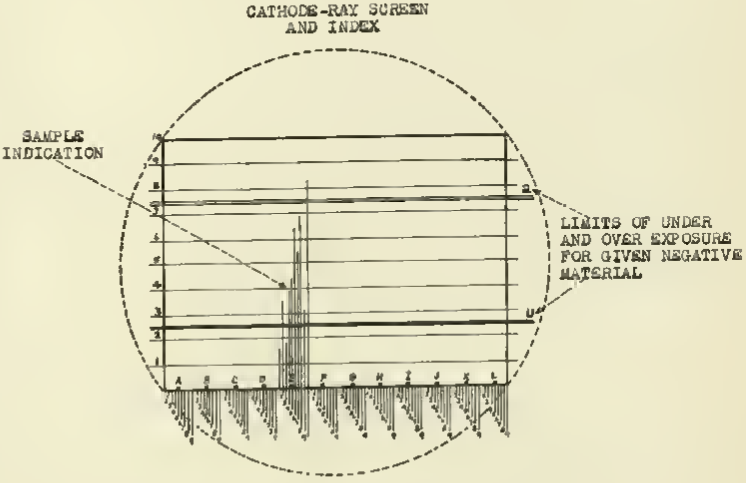
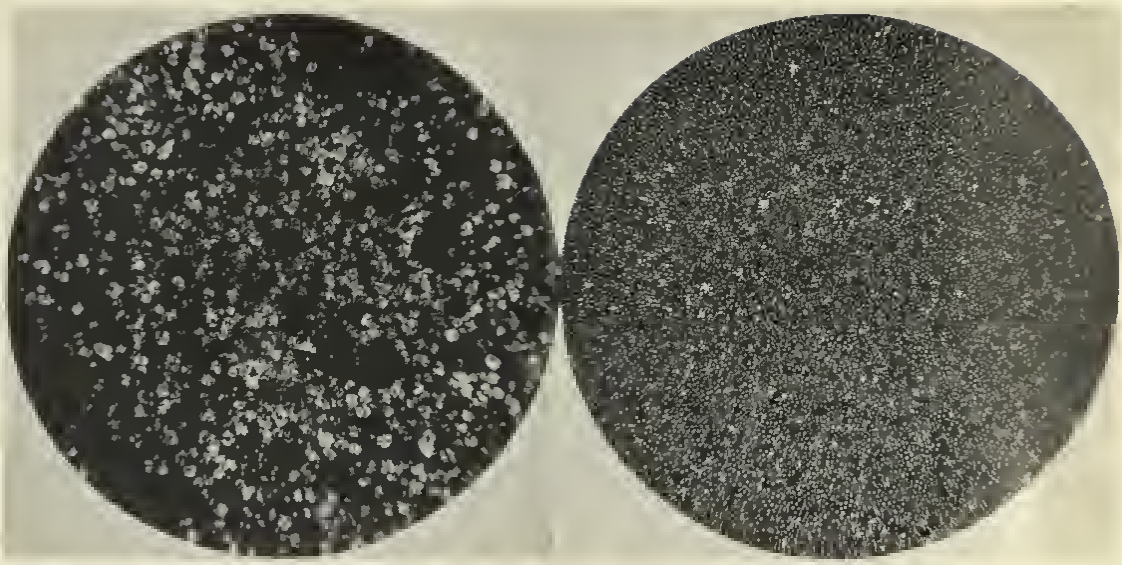


FIG. 7

BY: C S Franklin
DATE: OCTOBER 31, 1937



Starch grain screen *Blood corpuscle screen*

To Use Blood in Color Photography

By IRA B. HOKE

NATURAL color photographs made from blood! Startling, macabre—yet scientific—is the impression given as for the first time Color Development Company announces its revolutionary adaptation of the additive color process through the use of sheeps' blood corpuscles as a dye carrier in the production of natural color moving picture negative and positive, as well as other types of photographs.

Headed by Chalmers C. Smith and Ray H. Pinker, inventors, Color Development Company, under the business management of Howard C. Brown, has opened offices and laboratory at 6418 Santa Monica Boulevard, Hollywood.

To a world of photography, now fully color conscious, and on the qui vive for new developments, this process promises the most fascinating step in the long history of additive color photographs.

Earliest progenitor of the process was the starch grain mosaic introduced in France thirty-two years ago.

While this well known process affords a color plate of astonishing fidelity, its adaptation to motion pictures was deemed unsatisfactory because of the relatively large size of the starch grains when magnified to the required screen proportions of the average theatre.

Then, too, starch grains vary greatly in size, the larger grains often being three times the diameter of the smaller. This difference would under some conditions in the moving picture type of photograph tend to produce untrue color values, as, for example, an extremely large grain of color adjacent to an unusually small example of one of the other colors.

Starch grain mosaics have, moreover, a low light transmission value, the average starch grain screen requiring 10 times as much light as an emulsion alone.

Inventors Pool Ideas

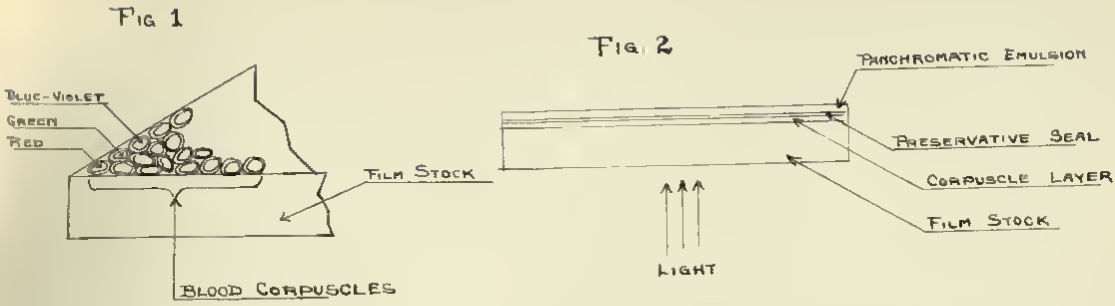
Cognizant of the shortcomings of the starch grain mosaic, yet realizing that an additive type of moving picture color film would offer substantial economy in production, Chalmers C. Smith, moving picture executive, and Ray H. Pinker, biochemist, pooled their experience, and after several years of experiment evolved the blood corpuscle carrier as an ideal means of producing a fine grain dye base, and have been granted a basic United States patent, No. 2,115,886, on the process.

The inventors claim that the film mosaic composed of blood corpuscles overcomes all of the former difficulties encountered in the irregular type of screen. Their experiments show them that they can manufacture a screen of high transparency.

In order that we may readily understand this last mentioned and most important advantage, let us first look through the microscope at one of the millions of blood corpuscles that are present in a single drop of that fluid.

It appears as a circular biconcave disk with rounded edges about one six-thousandth of an inch in diameter and about a quarter of that in thickness. Its color is little more than a pale yellowish tinge, almost transparent. The deep red color which it gives the blood is observable only when the corpuscles are seen en masse.

Not only will the screen formed of these minute disks afford a mosaic of high transparency, but, owing to the extremely small size of the blood cor-



puscles, the mosaic will he of a minimum thickness, as the elements, because of their flat disk shape, have a tendency for the most part to cling to the surface of the film stock in a single layer.

Looking again through the microscope we see blood corpuscles from various domestic animals, sheep, dog, horse, rabbit, etc.

While there is a slight variance in size between corpuscles from different animals, of from one three-thousandth to one six-thousandth of an inch, they range as a whole nearly the same. Contrasted with the bulky starch grain masses they appear astonishingly uniform and diminutive.

Fine Screen Possible

Some comparison with the starch grain screen may be had from Mr. Pinkers' estimate that 3 million starch grains occupy a square inch of that type of screen, while about 27 million blood corpuscles will cover a like area.

Not only is the small size important in the motion picture type of mosaic, but it is desirable that all dye carrying elements be of uniform size and preferably of regular shape.

In other words, each element should be substantially identical with every other element except for color. This would make even distribution of the mixed dye carrying particles almost certain. Such an ideal seems to have been reached in the blood corpuscle mosaic.

In the manufacture of color film by this process, the corpuscles are accumulated by centrifuging, and if necessary decolorized, although this is not always necessary. They are then immersed in an isotonic salt solution and dyed either directly or by impregnation with a mordant solution, in three separate groups. One of these parts will be dyed red, another green, and a third blue-violet.

Corpuscles Sprayed on Base

They are next mixed in varying proportions, according to the type of light required in taking the photograph, such proportions being, for example, three red elements, four green elements and two blue-violet elements.

The corpuscle mixture is then deposited on the film stock by spraying, and, after drying, a thin layer of formaldehyde and albumen is overlaid as a protective, sealing and preserving coat.

Figure 1—Diagrammatic perspective view of blood corpuscles mosaic as applied to film stock. Figure 2—Diagram showing relationship of the various layers.

Over this the panchromatic emulsion is laid, and the film is exposed in the camera with the celluloid side toward the lens, thus causing the light to pass through the colored corpuscles, as through millions of tiny filters, before reaching the sensitive emulsion.

Owing to the extremely transparent quality of the dyed corpuscles, the negative film, according to Mr. Pinker, requires only an exposure double that of the emulsion alone.

The exposed film is then developed in ordinary negative solutions and produces, of course, a color negative; that is, the film is negative as far as the emulsion is concerned and complementary in color range to the original.

Prints may he made directly from the negative hy means of the optical printer upon stock sensitized in a manner similar to that hitherto described.

The negative film produced with the blood corpuscle mosaic will have a light transmission value of approximately 34 per cent and the positive a transmission of approximately 40 per cent.

These transmission values are not far from those of ordinary black and white films, and as a consequence in the projection of these color prints little excess light is necessary.

Color Development Company is at present continuing research on the spectral quality of blood corpuscle dyes. After these tests are completed the new blood corpuscle mosaic will be ready for the raw stock manufacturer.

CALL NINTH SESSION ON VISUAL EDUCATION

THE ninth session of the National Conference on Visual Education and Film Exhibition (De Vry Foundation) will he held in Chicago June 19 to 22 inclusive. The gatherings will be as they were last year in the Francis W. Parker School, 330 Webster avenue, opposite Lincoln Park, and will as at that time be under the direction of A. P. Hollis.

Among those who will appear are Dr. James E. Bliss of Western Reserve University, who has done some remarkable work in color, not only in dentistry, but in Athletics and other school subjects; Professor L. W. Cochran, of Iowa University, who will exhibit and explain Professor Barnes' motion studies which have excited intense interest.

A. P. Heflin of the Lane Technical High School, Chicago, will exhibit some of the school's own films and describe their production and use. Dr. I. E. Deer, of the MPPDA, who has done such fine work with the "Secret of Success" character building films released by that organization.

Mrs. Richard M. McClure, president of the Better Films Council of Chicagoland, whose inspirational addresses have shown a new way to culture through motion pictures.

William G. Hart, director of visual education in the Harvey H. Lowrey School of the Fordson Board of Education, Dearborn, Mich., will exhibit and describe some original film production in public school relations. Mrs Charles Joe Moore, Director of Visual Instruction Bureau, University of Texas, Austin, Texas, will tell of the outstanding work of her department in Texas schools.

Miss Kathryn Troy will be welcomed again for her unique films on marionettes. William L. Zeller, cinematographer of wild birds in color, will have new marvels of his skill, patience and imagination to show. E. W. Cooley, cinematographer, Wauwatosa, Wis., will show his Indian pictures, also in color. Walter L. Grabski, Cleveland, will put on travel films in color. DeForest Training, Inc. will demonstrate apparatus used in teaching Television.

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SOMETHING TO SEE!

J. E. BRULATOUR, Inc.

DISTRIBUTORS

LET'S EDIT A TRAVEL FILM

By ORMAL I. SPRUNGMAN

16mm frame enlargements by Sprungman from Dan Billman Jr.'s color movie, "Black Cousins." Titles filmed by Park Cine Laboratory.

Enlarged from 16mm color movie frame.

Dan Billman Jr. of Minneapolis, whose recent travelog, "Black Cousins," is described in this article, is shown filming from deck on a West Indies-bound steamer. A member of the Minneapolis Cine Club, Billman increases the effectiveness of his screenings by adding music and sound effects.

BEFORE me on my editing table lie seventeen rolls of freshly exposed Kodachrome, representing the latest shooting efforts of one Dan Billman Jr. of Minneapolis, just back from a month's jaunt to the West Indies by water and air. My job is to boil down the footage to three 400-foot reels, whip up continuity, create readable titles, and put everything back together again so that all scenes will be right side up.

Frankly, I enjoy this polite form of butchery, for nothing gives me greater pleasure than to rip cold-bloodedly from my own films those sequences which are a bit off in exposure or focus. I have learned, after more than a decade of filming, that poor stuff has no place even in amateur-made movies.

Dan is typical of many moviemakers. He likes to film his travels. His cinematic hobby provides a pleasant escape from his more or less morbid work as a mortician. Unlike most button pushers, Dan shoots his footage from one of those cumbersome, finger-pinching contraptions known as a tripod, and he has the knack of spotting nice picture possibilities and framing his scenics. He uses a meter

A winter ago, after having exposed an experimental roll or two of Kodachrome, Dan and his bride hied off to the Pacific's paradise, returning later with "Hawaiian Honeymoon," a 1200-foot color feature, synchronized with sound and music that well nigh amazed the countless audiences which viewed it.

Sees Hawaii as Ideal

Spurred on by good shooting, the movie pair recently rode down to Miami, sailed off to Haiti, spent a week at Kingston, and then flew back to the home soil via Havana.

Dan, who sits here watching me cripple and maim his latest celluloid offspring, assures me that he is disgusted with the results and disappointed with himself. He believes that the Indies do not offer as many picture possibilities as Hawaii.

He claims that he tramped the native streets daily with camera and shouldered tripod, invaded the market places in search of colorful sidelights, spent a goodly boodle on tips to lens-staring black-skinned subjects, and was finally forced to hire native policemen with whips as bodyguards to protect himself and camera.

He says that he searched the islands for a native burial, finally contenting himself with a shot of a moving hearse. He spent days big game fishing and only came off with one little perch.

Everything sounds hopeless. But I know better.

We have just finished running all 17 reels through twice, and I can see good possibilities after the dead timber has been cleared away. The first time through was merely to study the general layout. On second projection, a written record was made of each scene, one page being devoted to each numbered reel.

Ready to Mutilate

With reels, scene record sheets, cement pot and scissors before us, we're ready to mutilate. We glance at the scene outline for Reel 1. It reads verbatim like this:

MS Dan and wife leaving home
CU pair—heads only
LS front view of "Hiawatha" in railway station
MS angle shot of train funnel
CUT birds
LS telephoto shot of flying fish
CUT 1st CU steamer whistle blowing
LS bow of SS North Star showing name
OK 2nd whistle blowing
CUT LS 2 people on deck
OK closer view same people pointing over rail
MS Dan with movie camera on tripod, shooting
MS Wife clowning at wheel
MS Ship captain and others
CU skipper at wheel
LS passengers seated on deck
CUT dark steamer whistle (OK for later use)
CUT light sunset from deck
OK remaining sunsets

LS means long shot, MS medium shot, CU closeup, and CUT throw out.

It looks like mutiny, but something must be done about that introduction. The train shots are too short, and the departure from home too abrupt. But let's bother about that later.

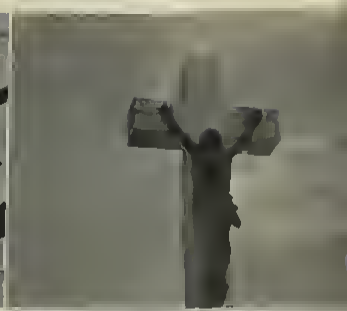
Snipping and pasting, we go through the first reel, permanently discarding the badly exposed CUT stuff, and slipping on to a separate personal reel other scenes too good to throw away, yet not relating to the current theme.

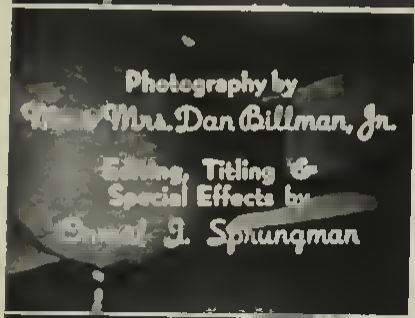
Getting Picture Started

The next reel shows market scenes in Haiti, native women smoking, a public cemetery, babies crying, a sunset from the ship, immigration officials coming aboard at Kingston, the Myrtle Bank Hotel, and orchids in closeup. This hodgepodge is followed by more flowers, more babies, more market scenes, long shots of Jamaica's high country and closeups of native dances.

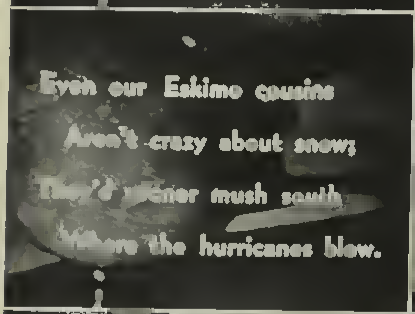
Apparently, our three 400-foot reels might develop like this:

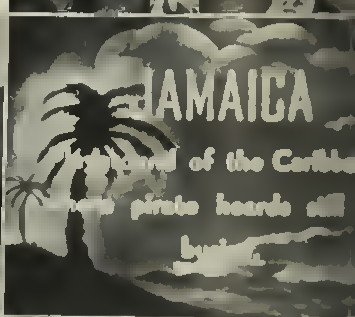
(Continued on Page 208)

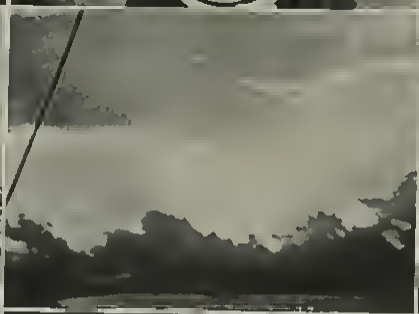


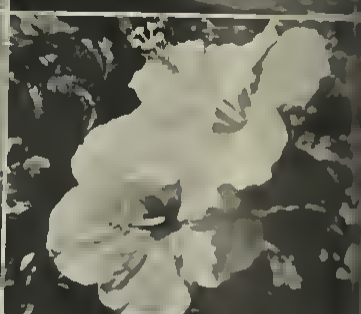


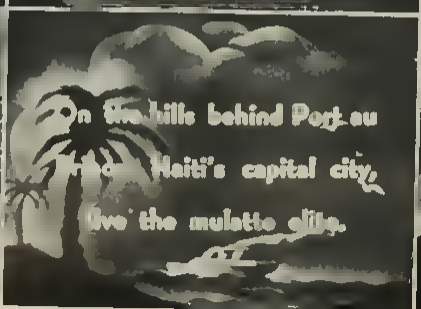
THESE two pages of striking 16mm. color frame enlargements are from Dan Billman Junior's West Indies film, "Black Cousins," described in the accompanying article. All frames were enlarged by O. I. Sprungman, writer of the story.

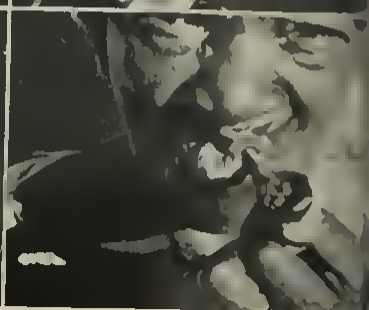












KINGSTON
JAMAICA
that sea-rover,
became Jamaica's
bona fide tourist.

(Continued from Page 205)

Reel 1 Departure from Minneapolis, steamer scenes, arrival in Haiti and Jamaica, flower and river shots, native dance on beach.

Reel 2: Kingston traffic views, Coronation Market, mountain scenery, sailboating, fishing, coastal scenery, turtle-bird-dog closeups, more dances, sunset

Reel 3 Departure from Kingston by plane, arrival in and departure from Cuba, arriving in Miami, sailboat races, Finis.

Such an arrangement of course is never final. In fact, scenes are often juggled and rejuggled until the best combination is created. In editing features running two or more reels, it is always advisable to work in the most striking scenes toward the close of each reel.

Psychologically, this leaves a desirable impression upon the audience during reel changing. Since color sunsets are often awe-inspiring, the tendency is to end amateur reels with a brilliant spectacle of this sort. This usually denotes lazy editing, however, and the trite effect should be avoided wherever possible.

Allowance for Titles

Since all three reels are pretty well loaded, we must not forget to allow for around 100 feet of titles. This calls for more scene cutting and juggling. Suppose we remove the lengthy Haiti market scenes from Reel 1 and combine the best shots with the Jamaica market scenes on Reel 2. Only an expert will know the difference. To avoid overloading Reel 2, transfer the mountain scenery and the turtle-bird-dog closeups to Reel 1, and slip the sailboating, fishing and coastal scenery stuff into Reel 3.

But how shall we end our first reel?

The native dance on the beach, sound synchronized with weird music and the beat of tom-toms looks like a natural. But the jump from drums to the "End of Part One" title is too abrupt. We must bridge the gap, and in so doing we break our first rule. We call for a sunset.

In this case, however, the sundown views are cut in not entirely for their beauty but simply to aid synchronization. There are occasional quick shots of bands beating drums and closeups of the dancers themselves.

Drumbeating alone winds up the sequence, and while the palm-fringed sunset scenes fade into view the sound of the tom-toms diminishes slowly in the background, finally fading out with the closing title.

Reel 2 moves less rapidly, featuring street scenes, parading native troops and market stuff, enlivened by a nice sequence of a barefooted native youth tapdancing on pebbly pavement with pop bottle caps held between his toes. This is followed by a colorful Market Dance and a native skit which called for film censoring in spots.

Lone Fish Makes Fun

Reel 3 opens with beautiful coastal scenery around Port Maria and striking bathing beach scenes. Next is an angle shot of the top of a sail silhouetted against the sky, then a drop to water level for the sailboating sequence.

Hence, the transition from land to water is complete without titles. The gap between the sailing and fishing boat scenes is handled by cutting in a short closeup of the latter's pilot wheel, continuing with over-the-bow shots of a rolling sea.

The preliminary fishing scenes were well filmed, and, despite the fact that no whoppers were caught, the closeup of the lone fish at the end of the sequence usually pulls a grin from each audience.

Prior to making the flight from Kingston to Miami, Cameraman Billman haunted the airport, securing the necessary sign and building closeups and the actual landing and takeoff on water of an identical plane.

Instead of shooting baldly out across open water, he set up his tripod some distance back from shore, with a few blushing poinsettias bobbing around in the foreground while the plane whisked over the wavy blue for a perfect landing. Then came refueling, baggage-wheeling, and taking on new passengers, and finally the takeoff filmed against a cloud-broken sky.

On the day of the Billmans' departure it was only necessary to show the couple boarding the plane. The balance of the shots could then be taken through the window inside the cab, with spray streaking down over the glass to add an unusual effect. Ocean scenics framed down through lazily drifting clouds or high above the billowy floor provided unique beauty.

Shooting Own Plane's Shadow

Upon landing at Cienfuegos, Cuba, he caught the shadow of his plane on the ground and kept his camera purring steadily as the menacing shadow grew larger and larger. There are a few shots about Havana, then another takeoff, more sea-aerial stuff, and finally the landing at Miami, with a rowboat riding out to rope the great bird shoreward. The film closes with views of a sailboat race outside of Miami.

Neither of us cared for the ending. The race seemed out of place. The racing shots were jerked, one or two of them fitting nicely in the Kingston sailboating scenes at the start of the reel.

But this gave rise to another problem. You can't bring a plane down on water, flash on *The End*, and tell folks to go home. The finale needed further smoothing, which was provided simply by adding another windup title.

When the plane taxis up and the small boat comes out, we faded in slowly on a title, already familiar in professional films: *We're sorry, folks, but this is where you came in*—and then dissolved into *The End* title.

Compromising on Title

Selecting a main title called for some head-scratching. Dan wanted something with the word *black* in it. He suggested *Black Cousins*. A bit trite, though not bad. I overworked my brain on these

Indies, Ahoy!	Southward and
Indies Interlude	Black
Black Indies	Black Antilles
Black Country	Antilles Visit
	Hurricane Islands

We compromised on "Black Cousins."

Park Cine Laboratory, a New York professional titling firm, offered a fitting West Indies background showing ship, waves and palms, and Park Cine did the shooting.

To secure ideas for title wording, travel magazines, guide books and steamship folders were consulted, and these often gave birth to such eye-blinking creations as—

> On the hills behind Port au Prince, Haiti's capital city, live the mulatto elite.

(or)

> JAMAICA
> Playground of the Caribbean. where pirate hoards still be buried.

Instead of running a label title, probably reading—"Jamaica's Roads Are Awful"— a few facts and figures were packed in to produce:

> Fifty miles wide and three times as long, rugged Jamaica has over 4,000 miles of good and bad roads.

This title not only hints of the scenes to follow, but also reveals the size of the island and the extent of its highways. Its usefulness is obvious.

Establishing Contrast

Except for the introduction, the three reeler was almost complete. It needed padding, something contrasty. Well, let's see. We have Black Cousins and hmm!—Eskimo Cousins.

Eskimos live in igloos, and igloos made of snow. Well, why not show table-top igloo, with a few travel folders being snowed under? The introductory title could read something like this:

> Even our Eskimo cousins
> Aren't crazy about snow;
> They'd sooner mush south
> Where the hurricanes blow.

A couple rolls of cotton batting were spread over a card table top, some

(Continued on Page 231)

How About YOUR Skylines?

TODAY, it's easy . . . and economical . . . to make movies that are just as outstanding as New York's skyline.

The solution is in Agfa Ansco's two low-priced 16mm films—the popular Fine-Grain Plenachrome Reversible and the new Panchromatic Reversible.

You'll find these companion films excellent for general outdoor use with a choice of a fully orthochromatic sensitivity in Fine-Grain Plenachrome Reversible or of a well-balanced sensitivity to all colors in Panchromatic Reversible. Their speeds are approximately equal in daylight while both have wide latitude and their fine grain permits large projection without loss of detail.

Try these two films this season—to insure clear, sparkling screen results. Both are available in 100-foot rolls at $4.50 and in 50-foot rolls at $2.75, including processing and return postage.

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16mm. PANCHROMATIC REVERSIBLE FILM

Agfa

Making Stereoscopic 8mm. Pictures in Color

By JACK V. WOOD, S.A.C.

Dr. Ghrist demonstrates his [illegible] cameras. The two machines are [illegible] synchronization by a shaft in the motor ing base with a gear on each end which meshes with gears in the camera motor

STEREOSCOPIC color motion pictures in 8mm. were publicly demonstrated April 11 to the Glendale Lens and Shutter Club by Dr. O. E. Ghrist, eye specialist, and one of the club's members. So far as is known, this is the first time an amateur cinematographer has successfully presented 8mm color stereoscopic pictures to an audience.

Dr. Ghrist uses the same polarized light principles that have been successfully used both by amateur and professional in the 16mm. and 35mm. fields, but it is believed the 8mm. adaptation is the most successful yet from the standpoint of simplicity, cost of equipment, and cost of producing stereoscopic movies.

In order to produce the stereo effect in a picture it is necessary to take two photographs of the subject, each from a different angle, and approximately in the same relation as the two eyes see the picture. In reproducing the stereo, or third dimension, each eye must see only one picture, and not the other.

In projection this is accomplished by using two projectors in synchronization, with each image being projected through a pola screen, one arranged vertical and the other horizontal.

The person viewing the picture wears a pair of glasses fitted with similar pola screens, and thus using the polarized light principle, each eye sees only one image, different from the other, in the same relation as the person would see the actual scene that was stereo photographed.

How It Is Done

Two Cine-Kodak eights, Model 20, are used by Dr. Ghrist in taking his stereo pictures. The two cameras are mounted on a common base, far enough apart for access in loading and winding the two machines. Through the base runs a shaft, to which a cog is rigidly attached to each end. This cog wheel on each end protrudes out of the base far enough to fit in mesh with a large cog wheel found as part of the motor mechanism in this particular model camera.

An opening has been cut into the bottom of the case of each camera in order to afford access to the winding gear and subsequent connection with the external gear and shaft.

The cameras are then mounted by means of their tripod threads to the base, with each winding gear in mesh with the external gear and shaft. The object is complete synchronization of the two cameras.

For additional rigidity a removable brace is attached to the back of the two cameras which insures the cameras will remain always in alignment with each other.

One great advantage of this set-up is that either camera may be quickly removed and used for making regular pictures. Both mounted together, the base then may be attached to a tripod, or the two machines and base together are still light enough for easy hand-held operation.

Two Pictures on One Screen

Since the two cameras are locked in mechanical sync, one starting button is left permanently on, and the two cameras started and stopped by the use of the other single control button.

The use of the pola screens has nothing to do with the camera work. It is only in the projection process that the polarized light principle is utilized. Either black and white or color pictures may be made, and filters employ the same use as in single camera photography. With proper adaptation the same special effects are possible, as well as additional ones employing the stereo effect.

In projection Dr. Ghrist employs two 500-watt Eastman projectors locked in synchronization by means of a shaft and universal joint. Again it is a simple matter to disconnect the shafts and use one projector alone for regular operation.

In front of the lens of the right hand projector (facing the screen) Dr. Ghrist has mounted a pola screen so that its axis of light filtration is on a horizontal plane.

In front of the left projector is an identical screen excepting that it is mounted so that its axis of light filtration is on a vertical plane. The two films are projected on the same screen on top of each other, in rough registration. Since the films are the same scenes at different angles, exact registration is impossible, and it is not necessary.

The audience is given individual pairs of glasses, each pair having a vertical plane pola screen in the left lens and a horizontal plane pola screen in the right lens, corresponding to the two screens in front of the synchronous projectors.

Thus the left eye sees only the image of the left projector, while the right eye sees only the image of the right projector. This modern version of the old fashioned stereoscope results in third dimension motion pictures.

The two films must run in exact synchronization. This means they must be photographed, edited, and threaded in exact relation to each other. The problems involved are much the same as that of the professional 35mm. cutter with his separate picture and sound tracks.

Dr. Ghrist found that the easiest

way to check synchronization after the two films come back from processing is to go back to the end of a scene, match the two ends exactly, and then wind forward again and mark the film for sync at the beginning of the scene. This editing process can be simplified further by building a sync machine similar to that employed by 35mm. sound film editors.

Watch Your Beginning

Since the cameras stop exactly together, the use of the visual slate-clapper of 35mm. sound for synchronization is not necessary.

Another editing item must be watched closely, and that is that the left and right images do not get mixed. The beginning of each reel is marked left and right, and each reel has a sync or "start mark" corresponding to a reference point on the projectors.

The film is threaded with the start marks at the exact reference point, and the projectors started in sync. This, again, is substantially the same problem, solved much the same way, as the 35mm sound editor finds with his work prints of picture and sound.

Dr. Ghrist found that much experimenting was necessary in order to find the best screen for this work. The screen must be able to reflect polarized light, and since this light is most easily reflected from a metallic surface, a silver screen was used.

Applied in One Direction

In painting the screen, the metallic silver paint was applied with an air brush, moving always in the same direction. That is, the paint was not sprayed on left to right and then right back to left. It has to be applied in one direction only for best screening results. A beaded screen is of no use in this type of work.

Since the pola screens allow only polarized light to pass through them, they naturally act as fairly strong neutral density filters. For this reason it is almost necessary to use the most powerful projectors available in order to offset the neutral density effect and still project an acceptably large screen image.

In the demonstration at the Glendale Lens and Shutter Club the pictures were screened about 30 by 40 inches, large enough to accommodate the thirty-five persons present, and with enough brilliance to offset the effect of the pola screens.

The illusion of depth is excellent, and the picture quality is as good as that of the regular two dimension motion picture. Many times the stereo effect made trees and objects appear in the middle of the room, rather than coming from a flat motion picture screen some distance back of where the object appeared to be located.

May Use One Film

For those who have seen Pete Smith's Audiospek short subjects, the motion picture stereo effect is nothing new. But while the Pete Smith commercial variety is viewed through red and green gelatin filters, the polarized light filters of Dr. Ghrist's amateur outfit produces black and white pictures in actual black and white, and color pictures in the same natural color as one sees the regular two dimensional film.

Were Dr. Ghrist adapting stereo movies to commercial pictures he believes he would experiment along a slightly different vein. Instead of using two cameras, he believes it would be possible to take both images on the same film, one above the other, much on the same principle as the Leica does with stereo still pictures.

On projection, the pictures might be alternated by means of a pola screen shutter, first projecting one frame in the vertical plane, the following, and in reality the complementary frame, in the horizontal plane.

Taking and projecting at 32 frames, each picture would appear 16 times each second, the old silent film speed. Naturally the sound synchronization would have to be stepped up to keep in line with the fast traveling stereo film.

Dr. Ghrist sees little or no possibility of third dimension films under any method where the individual members of the audience do not wear special viewing glasses.

Since Dr. Ghrist is a practicing eye physician, he is in a position to lend weight to this contention.

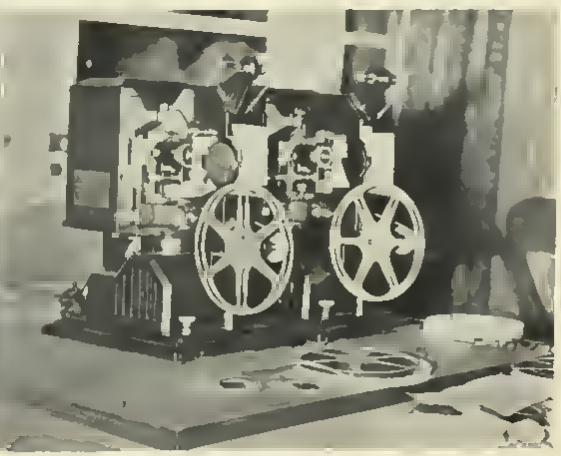
There is a law of optics involved in the stereo process that requires each eye to see a different image, and never has the stereo effect been produced without some mechanical or optical device close to the eye itself forcing this individual eye-view requirement.

Left, Dr. Ghrist wearing the pola screen glasses necessary to stereoscopic motion pictures. Beside him are the two projectors used. The pola screens may be seen taped in front of each projection lens. Right, the synchronized projectors used in 8mm stereoscopic pictures. The pola screens are shown immediately in front of each projection lens, held by tape. With experimentation completed the screens will be permanently mounted.

Agfa Lowers Camera Prices

Reflecting the spreading interest in picture taking during the past year is the announcement of important price reductions on Agfa cameras. Made possible by the growing demand for Agfa cameras in recent months, this price reduction should further influence the widening of the photographic field and bringing the enjoyment of picture-taking to those who previously felt they couldn't afford to own a good camera.

No features in the design or construction of these amateur cameras made by Agfa Ansco Corporation have been changed or cheapened to enable these price reductions. In fact, many of the current models incorporate new improvements and refinements.



RULING FAVORITES

EASTMAN'S three new motion picture negative films have quickly established themselves as the favorites of the industry. *Plus-X* for general studio work . . . *Super-XX* for all difficult exposures . . . fine-grained *Background-X* for backgrounds and all-round exterior work. Each makes its special contribution, and all have that typical reliability closely identified with Eastman films. Eastman Kodak Company, Rochester, N. Y. (J. E. Brulatour, Inc., Distributors, Fort Lee, Chicago, Hollywood.)

EASTMAN *Plus-X* . . .
Super-XX* . . . *Background-X

FAST FILMS AND COLOR HAVE MADE BIG LIGHT CHANGES

By GENE KORNMANN

Twentieth Century-Fox Portrait Gallery

COMMERCIAL and portrait photographers frequently comment, when visiting our gallery at the Twentieth Century-Fox lot in Hollywood, on the lighting equipment. Fast films and color have brought about revolutionary changes in lights.

The equipment we are using today is outstanding and of interest not only to those professionals who photograph to live but also to those amateurs who live to photograph.

For more than twenty years I have been a "still photographer" in Hollywood, and as far back as my experience goes "Lights" always have been the big problem.

Lighting engineers and optical experts will no doubt continue to improve lights, but since the introduction of fast films the change has been so startling that we "old timers" wonder just how the present units could possibly be improved.

The back-stage shot accompanying this article shows a typical portrait set-up in our gallery. Five Bardwell & McAlister 500-750 Watt Baby Keg-Lites are used. The light in the foreground is equipped with a 500 watt, 100 volt, T20 Mazda globe and the B&M Foco Spot attachment.

The four other lights are equipped with the standard 500 watt, 120 volt, T20 Mazda globes. A total of 2500 watts furnishes all the light necessary.

Placing the Lamps

The placing of the lamps is easily explained. The key light is mounted high and almost full-face on the subject, the two back lights are used to bring out highlights on hair and shoulders, the light in the right foreground is focused at a medium flood to fill in the shadows and round out the features; the fifth light is equipped with Foco Spot, which in this shot is used only for the circle of light on the background.

You will notice only the key light is diffused. I have found a flesh colored gelatine diffuser to be the most satisfactory in conjunction with the fast films. In many cases, however, no diffuser is necessary.

The Foco Spot is in reality the most important piece of lighting equipment in our studios. It is simply an optical attachment for the Baby Keg-Lite which replaces the old arc spot, giving us sharp shadows, either round or rectangular, silhouettes, background designs and highlighting.

Nancy Kelly, Twentieth Century-Fox player.
Photo by Gene Kornmann

In fact, this new piece of photographic machinery has so many uses that an entire article could be devoted to it.

It takes time to light properly any photographic subject, and time is money even in a motion picture portrait gallery. Every week I personally expose an average of 500 negatives, making a total of about 25,000 each year.

Tough Eggs to Please

Every print released by our studio must be approved by at least three persons, the star, the head of the publicity department and then the releasing publicity man.

For release to newspapers, snappy commercial prints with strong contrasts and sharp shadows suitable for cuts are required. The magazines insist on artistic poses, soft shadows, silhouettes, special background or fashion effects.

Last, but not least, are prints for trade magazines and posters with light backgrounds that may be recut and used in composite groups or superimposed.

All prints must be good photographs, not just pictures.

You will see why lights are such an important part of our equipment and why we enthuse over those now in use. You may ask "What has become of the arcs, big heavy sunspots and overhead floods?" I am glad to tell you that they have been completely eliminated as far as Twentieth Century-Fox portrait gallery is concerned.

For the new fast films and Kodachrome we find these new lights ideal. We have made many excellent portraits using only one light. In no case do we use more than four plus one equipped with the Foco Spot attachment.

These lights can be focused instantaneously by a slight pressure on the arm which protrudes both front and rear. Their range is from a 4 degree spot to a 44 degree flood—control which we never dreamed of two years ago.

Showing Actual Set-Up

Another great time-saver is the mobility of the Baby Kegs. They weigh only 28 pounds complete with double riser stands, which at top put your light center nine feet from the floor. Generous rubber casters and high center stands add to the quick and silent placing in any position.

The portrait of Nancy Kelly, Twentieth Century-Fox player, which accompanies this story, was made with the light set-up as shown on the back-stage shot. Exposure was 1/25 of a second with aperture f/8. This picture using the old lighting technique would have been most difficult. Here is a natural smile caught as we were visiting; no trace of light consciousness

and yet the shadows and highlights would do credit to an arc

The evenness and intensity of these new lights is of course far more important than the time saving points I have mentioned.

Remember the old days of Klieg Eyes?

Remember how many times the arcs sputtered and died just as you were set? Hot spots and dark rings always seemed to be in the wrong places, and so many times it took the negative to show them up.

All of these troubles have vanished with us. Today we have lights that are "optically correct" with an even white field from spot to flood

We can change our light values instantly, compare and study shadows in a fraction of the time formerly required.

In Home—Then and Now

On many occasions we are required to make pictures in a star's house. These "home portrait" jobs often presented a real problem. Arcs are out of the question. The moving of heavy sun spots and floods over expensive oriental rugs, up and down stairs, and in a completely furnished room meant trouble for the camera man and crew, to say nothing of the inconvenience and cost.

Using our new equipment we can operate in any home without fear of breaking furniture or bric-a-brac. With many stars the first "home portrait" session was the last one (at their request).

Yes, we are making many colored portraits in the Twentieth Century-Fox portrait gallery. We have had the best results with Kodachrome and our critics tell us we are producing some excellent work.

How many times have you, as a photographer, looked into the ground glass and thought "If I could only capture the picture I see there!" Kodachrome gives you that opportunity.

Some of my friends would make color photography a dark, deep, mystic art, but to me it is more simple than black and white if I will analyze the [illegible] as they appear on the ground glass.

Kodachrome will reproduce the [illegible] just as they are, just as I see them through my own eyes. Each color has a value and I try to light each one to bring out that quality which my eyes tell me is correct and natural.

In all my work, whether black and white or Kodachrome, I use a Weston light meter with a trick collapsible shade of my own manufacture.

After many trials and plenty of errors, I have found that the manufacturers of films know more about correct exposure than I do. When it comes to exposure, I follow their instructions and trust the Weston.

Every new achievement and invention in the photographic field opens up avenues for countless other ideas seeking perfection. Sometimes we fight new ideas and hesitate to adopt or even try them.

Personally my ego has been flattened so many times that I try to believe everything I hear, see or read, unless I know from actual experience that it is not true or that it cannot be done.

Gene Kornmann, with his five lights, photographs Nancy Kelly at the Twentieth Century Fox portrait gallery.
Photo by Frank Powolny

Practical Gadgets Expedite Camera Work

By GREGG TOLAND, A.S.C.

Toland's outfit at work. Note "filler" lights on front of camera, hydraulic-hoist rolling tripod, and remote-control focusing dial in hands of Assistant Edward Garvin, left foreground.

MODERN studio cinematographic equipment has, on the whole, reached a stage of excellent technical efficiency. But no instruments turned out on a production basis can fulfill all the desires of so individual a group of users as are the cinematographers, and at the same time conform to the reasonable restrictions of cost.

Accordingly, practically every cinematographer and studio in the industry has added some refinements or accessories the better to adapt commercial equipment to individual conditions. In some cases, where such gadgets correct widely felt inconveniences, they often spread beyond the confines of the unit or studio of their origin, and are applied in any studio where they seem useful.

A notable example of this is of course the now almost industry-wide practice of fitting a small public address system to conventional blimped cameras, so that the cinematographer can, by means of a convenient microphone inside the blimp, give instructions to cast and crew without having to take his eye from the camera's focusing screen.

The first use of the device is generally held to have been made by William Daniels, A.S.C., at the Metro-Goldwyn-Mayer studio; but today there is scarcely a studio in which the "peeping mike" is not known and used.

Goldwyn Cooperates

Opportunities for the development of these practical gadgets naturally varies, according to studio and production conditions. In the writer's case, the relatively limited production of the Samuel Goldwyn unit, together with Mr. Goldwyn's cooperative attitude toward anything that will make his productions better, gives frequent opportunities for developing any idea which seems to give promise of improving or facilitating camerawork.

Therefore during the past few months the writer and his crew have been able to put into use a number of accessories, of minor importance individually, perhaps, which have together proved worthwhile production conveniences.

Some time ago this journal published a description of the hydraulically-operated rolling tripod developed for our Mitchell "BNC" sound camera. Since this self-blimped camera eliminates the extra bulk and weight of the usual blimp, a much lighter construction is possible in the camera carriage.

The camera is supported on a triple-extension hydraulic lift, and braced by three telescopic, tubular braces fitted with conventional locking screws.

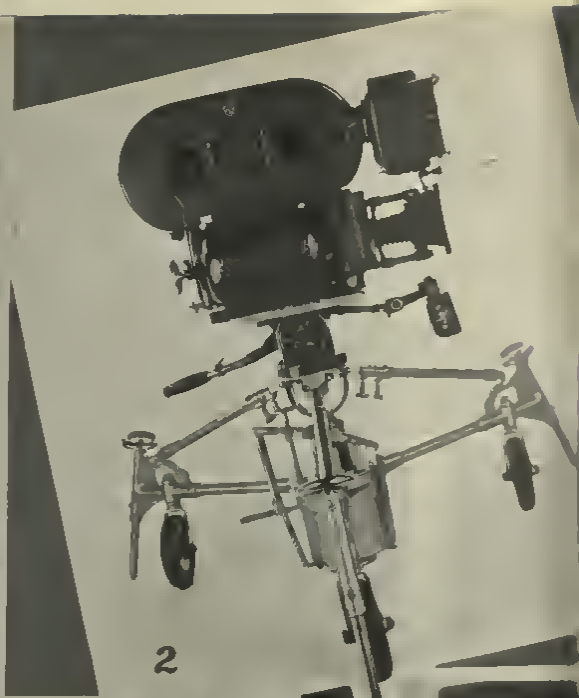
The camera is raised from a lowermost position with the lens considerably below waist-high to a maximum elevation of over six feet by means of a conveniently operated foot pump. It is lowered by turning a handy release valve. Thus a single unit replaces both the standard and "baby" tripod and fills every purpose except making shots where a dolly or crane is necessary.

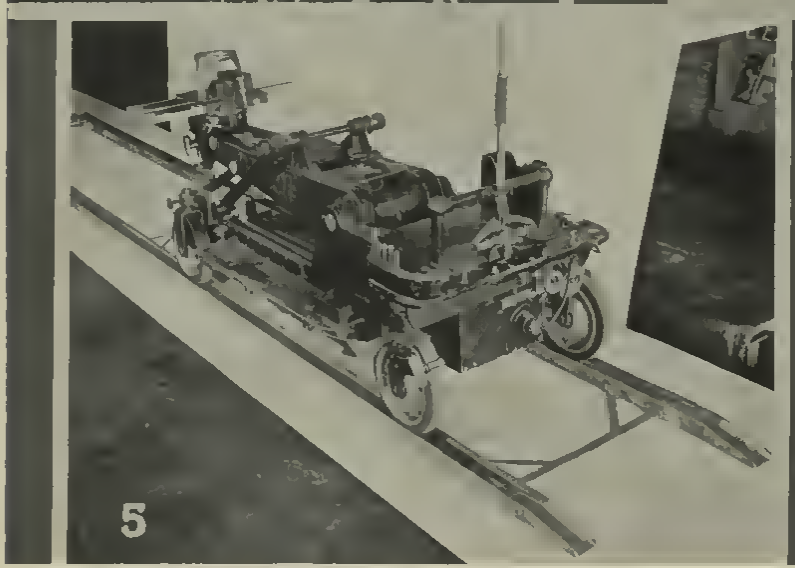
When we made "Goldwyn Follies" last year the remote control focusing feature of the Technicolor cameras impressed us all. We have recently adapted it to monochrome use on our "BNC" and have found it equally useful. In making the adaptation we have, we believe, added a couple of minor refinements which make the device even more practical.

Operating Principle Simple

The operating principle of the remote control focuser is simple, as it is based on the action of a pair of selsyn motors. One of these acts as a generator, the second as a motor.

When the armature of the generator





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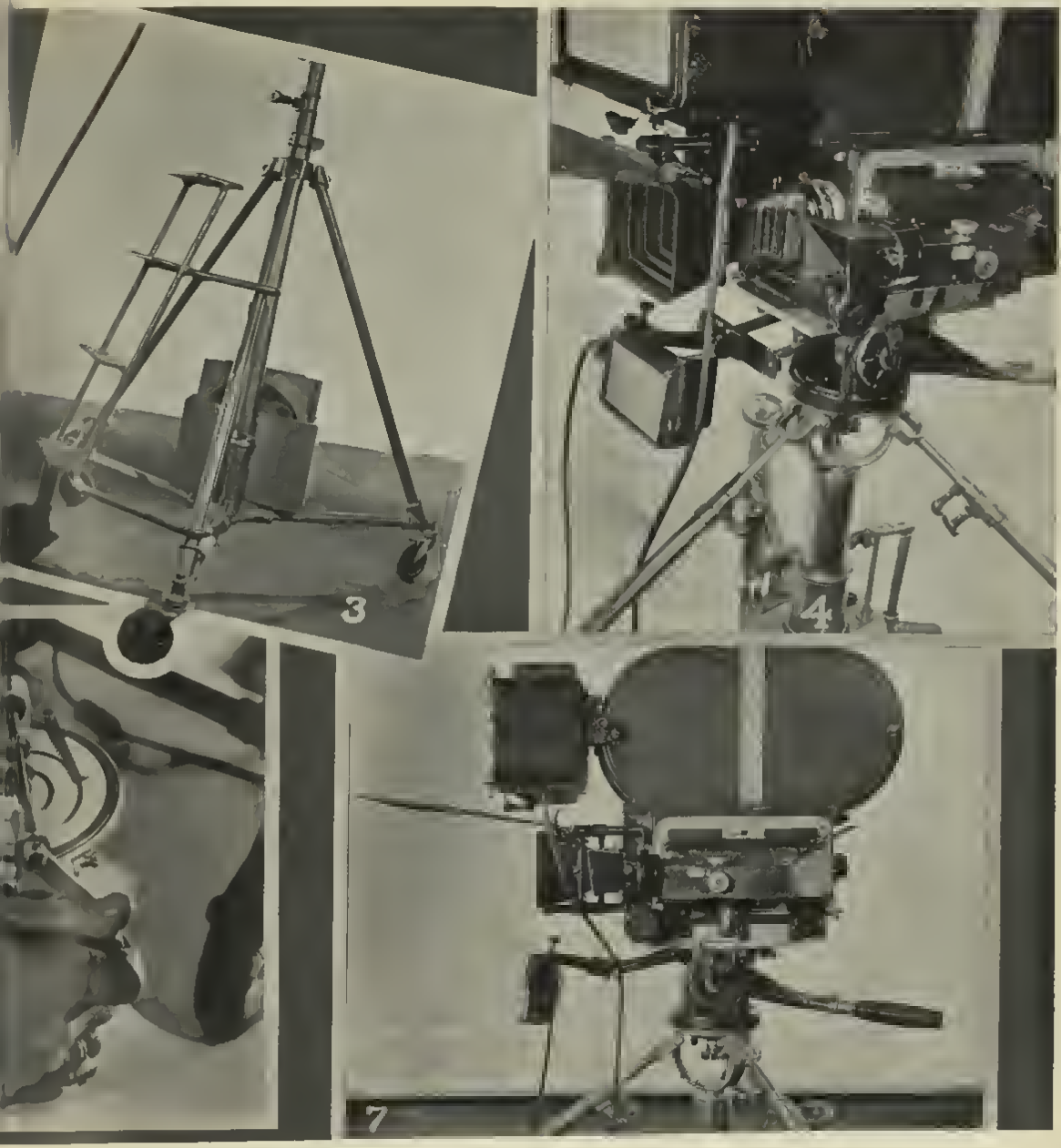
(1) Actor's-eye view of Toland's camera. Note "filler" lights above and below lens. Cylindrical housing at left holds selsyn focusing motor. (2) Camera in low position on Toland's hydraulic-hoist tripod. Note position of "filler" lamps as reversed in comparison to Fig. 1, with small unit below large one above. (3) Auxiliary step ladder hung on pedestal. Note supplementary wheel which braces and lamp stand. (4) Closeup view of mounting of a



ND'S GADGETS

"filler" lights. Note also sunshade on finder. (5) Velocilator dolly on Toland's duraluman track. Note also sliding bed for supporting tilthead. (6) Close view of the controller and generator of the remote control focusing system. Note that operator's hand is clear of dial at all times. Button below dial controls dual-speed gearing. (7) Toland's auxiliary "filler" lights mounted on Mitchell "BNC" camera. Note sunshades over lens and eyepiece of finder.

is rotated, it generates in its field a small current which is transmitted to the field of the motor and in turn causes the armature of the motor to move in exact synchronism.

The armature of the generator is coupled to an essentially conventional focusing dial. The armature of the motor revolves the gears which focus the camera lens. Therefore as the focusing dial—which may be at the end of a cable of any desired length—is operated, the camera lens is focused as accurately as though the assistant were manipulating the usual dial directly on the camera.

We have added to the familiar unit a pair of bevel gears and a shaft which extend the operating crank to the side of the device in such a way that, as will be seen from the illustration, the calibrations on the dial are not obscured by the operator's hand. Another addition is a dual-ratio gearing between the scale and the generator, so that the operator may have either a slow or fast movement.

In practice this device has proved very valuable. It relieves the assistant of the necessity of crowding in close to the camera—a real convenience in close quarters—and enables him to handle focus changes from any convenient vantage-point.

In making dolly and boom shots, or even in ordinary panning and tilting, it is an asset, for in such shots the operative's work is often rendered much more difficult if he has to worry about an assistant's fingers clinging to the usual focusing controls directly beneath his finder. With the selsyn remote focuser, the assistant can concentrate on focus, and the operative on camera movement, without fear of interfering with each other.

Soft Front Lighting

For a number of years cinematographers have found it desirable at times to suspend small "filler" lighting units from camera or blimp to provide a soft lighting, especially in closer shots, which will pan or travel with camera and subject.

In the past, such units have ranged from "broads" and rifles to baby spots. Today, with modern fast films and the low lighting levels that go with them, such supplementary illumination need not be of high intensity, but it is at times still needed.

For this purpose we have built up a pair of convenient little floodlighting units which may be mounted on our BNC. The larger of the two houses two 500-watt globes; the smaller, two 165-watt units.

Both are fitted with suitable, semi-permanent ground-glass diffusers, and have slides to take any additional diffusing media which may be necessary.

The heat from the globes is carried off through L-shaped ventilators which also serve as light baffles. The ventilator on the larger unit is reversible, so that the heat may be directed to the side away from the operating crew.

The mountings for these two units are interchangeable, so that either the large or the small one can be used in either position, above the lens or below, as the scene may require. In the upper position, the unit is attached to a fitting directly on the camera's magazine-cover; in the lower position the lamp is attached to a similar fitting on extension arms attached to the tilthead of the tripod.

The mounting of the smaller unit incorporates a tilting adjustment, while the larger unit is fitted with a socket for mounting on a conventional lamp pedestal.

Counterbalance

While these lamps are light in comparison to the weight of conventional lamps, none the less mounting them on the front of the camera is sufficient to alter the normal balance of the outfit upon its tilthead.

To offset this, a special top plate has been fitted to the tripod-head. In this the usual screws holding the camera to the tripod head pass through slots, so that when the lamps are to be used the screws can be loosened, the camera slid backward to counterbalance the added weight ahead, and the screws tightened again.

During recent years we've grown accustomed to fitting auxiliary sunshades over camera lenses and blimps, and since using the BNC we've lately found it convenient to do the same for the finder.

On our camera, a small, three-sided sunshade fits over the lens of the finder, and a similar but wider one shields the finder's rear aperture. It has proved a practical convenience.

High among the minor irritations of every-day routine is the matter of making small adjustments of lamps used on the floor, but on high-extended pedestals. The usual practice of standing on a small, sturdy box is effective, but it first requires that the box be available—which is not always the case on a busy set.

Climbing on to the lamp-pedestal itself can be dangerous due to the danger of overbalancing the lamp or inadvertently sliding it out of position on its casters.

We've developed a useful accessory for this. Constructed largely of welded tubing, it consists of a four-step ladder which can be hung quickly over the diagonal braces of the lamp-stand. A caster action wheel permits it to be moved readily with the lamp, and a toe-controlled friction type brake permits this wheel to be either locked or free as may be desired.

With this attached to the more important floor lighting units it is a simple matter to reach the lamp for making any necessary adjustments of focus, direction or diffusion.

Secure Against Accident

The supplementary wheel prevents the operator's weight from overbalancing the lamp, while the locking feature holds the lamp firmly in place, secure against accidental movement.

Ever since dollies and small cranes have come into such universal use, the problem of providing an adequately smooth, firm surface for them to roll upon has been important. Of course everyone has his own idea of what should constitute a practical dolly track; but it is generally agreed that it should be smooth, rigidly aligned, compact when not in use, and that some means should be provided for getting the heavy dolly on to the track easily and quickly.

The track we use is made of duralumin I-beams, rigidly held in place by K-shaped duralumin struts, bolted into place. These standardized sections can be fitted together to form a track of any desired length, yet when disassembled take up a minimum of space.

Lifting the dolly on to the track is eliminated by a pair of detachable ramps. These are of the same channel section as the track, but tapered downward to afford a sloping surface up which the dolly-wheels may be rolled.

Another useful accessory seen in the illustration is the sliding base for the tilthead. This has been described previously, as it has been in use some time, but it is so handy an accessory that we make extensive use of it.

It is simply an accurately made plate some two feet long, fitted with a rack into which meshes a pinion on the tilthead base.

With this, the camera may be racked to one side or the other without having to reposition the entire dolly—a considerable convenience, especially when operating in cramped quarters.

Toland Wins

GREGG TOLAND again has won photographic honors from the Hollywood Reporter's poll taken on March releases. It is the second time in ten months the Goldwyn photographer has won the decision; and it is the first time in the year the poll has been in operation any one cinematographer has been declared a two-time winner.

For March Toland was a winner by a generous margin with Goldwyn's "Wuthering Heights." The second choice was Joseph Ruttenberg and Oliver Marsh with "Ice Follies" and the third Robert De Grasse with "The Castles."

For last June the subject was Twentieth Century-Fox's "Kidnapped," product of a studio other than his home grounds. But he carried along with him his own crew, as is usual in parallel cases. These were operative cameraman, assistant gaffer, best boy and grip.

An important new film

CINÉ-KODAK

SUPER-X

(16 MM.)

SUPER-X has speed. It is fully as fast as "SS" Pan; twice as fast as ordinary Pan. It affords ample speed for movies indoors under Photofloods or outdoors from dawn to sundown.

Super-X has truly fine grain, a clean-cut quality unexcelled for large-size projection, viewed closely.

Super-X has brilliance and sparkle that add new vitality to black-and-white movies.

Super-X is fully panchromatic, responds accurately to the action of Ciné-Kodak and Wratten filters.

In short, Super-X establishes a new standard of excellence in 16 mm. black-and-white movie making. It brings to general movie making, outdoors as well as indoors, new quality, new brilliance, new beauty. Your Ciné-Kodak dealer has it.

• *Ciné-Kodak Super-X Panchromatic Safety Film is available in 200-ft. rolls at $12, in 100-ft. rolls at $6; in 50-ft. Magazines and Packettes at $3.50; and in 50-ft. rolls at $3.25. All prices include processing and return, within country of origin.*

EASTMAN KODAK COMPANY, ROCHESTER, N. Y.

In Pershing Square in Los Angeles one encounters—in epote—the atmosphere of peace. In other parts there is disharmony in varying degrees as issue is joined by those who have won in the world's battle and by those who lost. Photos raised from Doctor Roy Gerstenkorn's film entitled "The Caldron," practically all telephoto

Gerstenkorn Makes Film Record of Public Park

Well-to-do citizen pursues his benevolent hobby of feeding the pigeons, who fight to eat out of his hand and crowd over him.

WHEN Dr. Roy E. Gerstenkorn of Los Angeles decided to make a picture—a genuine documentary, as it afterward proved to be, if you please—of Pershing Square in his own town he gave no particular thought to it.

To him it was just another picture. So far as it occurred to him there was no discoverable difficulty connected with making a record of the men and women, boys and girls, dogs and pigeons, who there congregate and in one way or another pass the hours long or short as individually they may be.

The doctor has made pictures in many parts of the world, and some of these were in a manner of speaking a bit hazardous. Not that that statement would apply to the pictures he exposed in Japan, where he went into the byways and fraternized with the rural Japanese and filmed their customs, family and religious. But that was a couple or more years ago, when the present restrictions on photographers had not been drafted.

He has traveled through and photographed the Gorges of the Yangtse Kiang, the final six of the fifteen hundred miles from Shanghai to Chungking; for which 40 percent of the distance steamer pilots anchor at sundown because of the dangers attaching to the swift currents and narrow twists and turns.

There was that time in Africa when a full-grown lioness left her kill and wandered over to the automobile slowly coming to a stop and in which the doctor held a motion picture camera. The big animal was really curious and none too benevolent in bearing as she stopped within ten feet of the camera and stood there by the front fender as a perfectly good record was made of her—from the inside of the car. If you make inquiry the doctor will concede the incident still is quite keen in his memory. It happened to be his first closeup of a lion.

Before Doctor Gerstenkorn had finished his 400-foot reel of 16mm. film he found it necessary to make ten visits to the square. He had worked with care, scarcely 150 feet of film being discarded.

The doctor's object was to make a record of the park as it is revealed to a casual visitor. Perhaps his foreword in the film better will describe it:

"A cross section of life in Pershing Square . . . a small green spot in the heart of Los Angeles downtown business section. Some come here to rest, read and relax; others, sad to relate, come to argue and agitate . . . Many come to solve the problems of the world . . . but have failed to solve their own."

On the doctor's first trip with tripod and camera he decided all exposures had better be made with telephoto lens. Very nearly that proved to be the case, as only in a couple of shots did he use his one-inch. He employed three, four and a half and six inch lenses.

As he worked at a distance of an average of seventy-five feet he was practically uninterrupted by those in the field of his camera. There were a couple of men, however, who spotted him. One of them "ducked" with marked suddenness and promptly made his way to the cameraman.

There he unburdened himself, making several unkind accusations, charging the doctor with being an agent of the police—and one of the unconscious subjects of the lens was a policeman on duty—charging him with being a representative of the Dies committee and again of a local newspaper which is most popular in ultra-conservative circles, and divers other affiliations.

Staggers Distances

Before starting rolling each day the doctor made it a point carefully to measure with a tape the distance between his camera and the benches or spots he intended to photograph. Then he checked results through his Kodak Special's critical focuser. The excellent photography which followed compensated him for his pains.

There was one experience, however, the doctor encountered the relation of which may be of interest to other filmers. His camera was turning on the face of an elderly woman when he shifted focus to the face of an attractive baby in behind. Of course the elderly woman then was relegated to secondary importance and she was not in full focus.

At a recent club showing of "The Caldron" the operator did not note the shift to the baby. What he did note was the out-of-focus situation on the elderly woman, which he proceeded to correct. And at that point the focus remained for the rest of the film.

In commenting on the incident the doctor said he had been inclined to throw out the sequence, but he had liked it and had let it ride. Since then he has cut it out. He agreed perhaps the only spot to put a sequence similar would be at the finish, but the probabilities would be against it fitting in.

Audience reaction to the picture is the sort to encourage a picturemaker. Laughs come at unexpected places. Particularly is this true in some of those instances in which the park again becomes a forum for those who never miss an opportunity to listen to the sound of their own voices, to "tell the world" what's wrong with it. The earnestness of the speakers is accentuated by its transference to the screen, when it is put into pantomime and the voice is taken away.

There is drama, too, as well as near tragedy in the bearing of many of the park's visitors as they sit, perhaps alone, apparently looking into the camera but really into vacancy, or reading a letter or a newspaper.

The well-to-do and the ne'er do wells are both represented. Where one of the former feeds the pigeons the latter as they swarm over the body of their benefactor are the objects of human eyes following them with more than casual, perhaps hungry, interest.

TWO KODACHROME FILMS MOUNTED FREE BY KODAK

AFTER April 1, 1939, the Eastman Kodak Company announced all miniature camera Kodachrome Film K828 and K135 sent in for processing will be returned in the form of individual transparencies, ready-mounted for immediate projection and with no added charge.

Kodak's new service includes lacquering the emulsion side of each roll of film after processing, as a protection against finger marks; cutting the frames apart and mounting each frame in a serially numbered Kodaslide Ready Mount.

These new Ready Mounts are made of tough, smooth-finish, specially prepared pressboard. Far lighter in weight than the conventional 2 by 2 inch glass slide, they are also much thinner, so that more can be stored or carried in an equivalent space. Unlike glass slides, they do not crack or shatter if dropped, and their toughness is such as to withstand all reasonable handling.

When returned to the sender Kodaslide Ready Mounts will be numbered consecutively to correspond to the picture sequence on the film roll—1 to 18 for an 18-exposure roll of No. K135 Kodachrome and 1 to 8 for an 8-exposure roll exposed in No. K828 "Kodak Bantam" size. The surface of the pressboard mount is such that additional data —as exposure notes or classification numbers—can be added by the owner.

Kodachrome Film users who wish their films returned unmounted and in complete rolls, as in the past, may indicate this desire by clipping a corner of the address tag when they send in film for processing after April 1. Since such clipping corresponds to a message, packages with clipped tags require first-class postage.

For the convenience of those who wish to mount their own transparencies, "blank" Kodaslide Ready Mounts will be marketed after April 1 in the No. 828 and No. 135 sizes. The film transparency is easily slipped into the mount and the mounting completed in a few seconds. These "blank" mounts are also convenient for the black and white film positives which many miniature camera users now make to supplement their color films.

With the announcement of its new mounting service, a major development in the field of home projection, the Eastman Kodak Company couples announcement of a new, compact, highly efficient and moderately priced slide projector—the Kodaslide Projector, Model 2—ideally adapted to showing 2 by 2 inch Kodachrome or black and white slides, either in the new ready mount form or glass mounted.

For the owners of older projectors, whose slide carriers or slots are not already adapted to the new, thinner slide mounting, Kodak also announces two helpful devices, which will adapt such projectors for convenient showing of transparencies in Kodaslide Ready Mounts.

One device is the Ready Mount metal frame. These frames, the same size and thickness as a conventional 2 by 2 inch glass slide, will be available April 1. A Kodaslide Ready Mount slips into each frame, and may then be used in the same manner as a glass slide. After a group of slides is shown, other Ready Mounts may be substituted readily in the same metal frames.

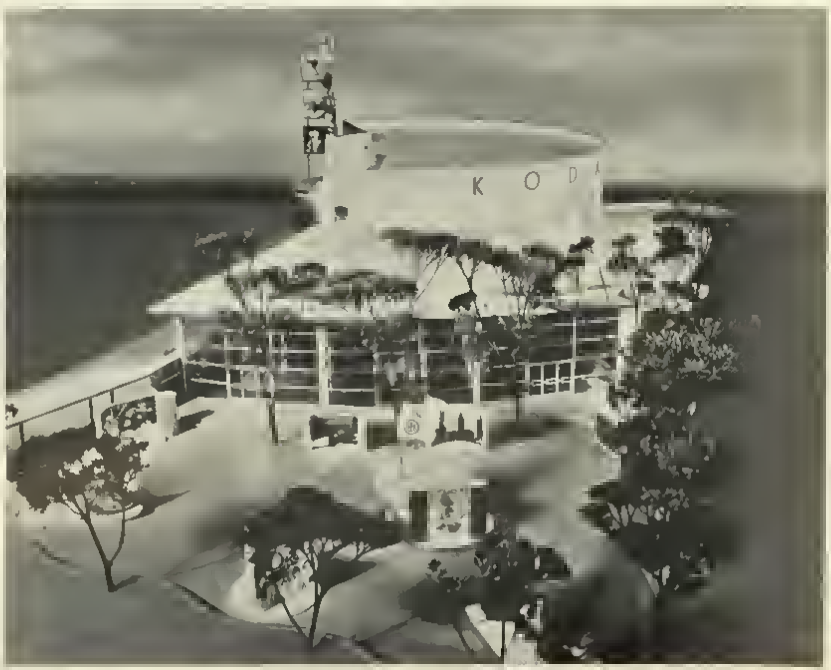
The other new device is a Ready Mount Adapter for the Kodaslide Projector, Model A. It inserts in the slide guide of this projector, and Ready Mounts are fed through by means of a sliding member. As each Ready Mount is moved into place, it pushes the preceding slide into the receiving holder at the projector base. As when showing other slides with this projector, the screen may be darkened between picture changes by raising the shifting lever.

Prices of these new Eastman developments, other than the new cost-free ready-mount service for Kodachrome transparencies, are:

Kodaslide Ready Mounts, for personal mounting of black and white film positives or Kodachrome transparencies, $1 50 per box of 50, in No. 828 or No. 135 film size.

Ready Mount Metal Frames, packages of six, $.60.

Ready Mount Adapter for Kodaslide Projector, Model A, $3.

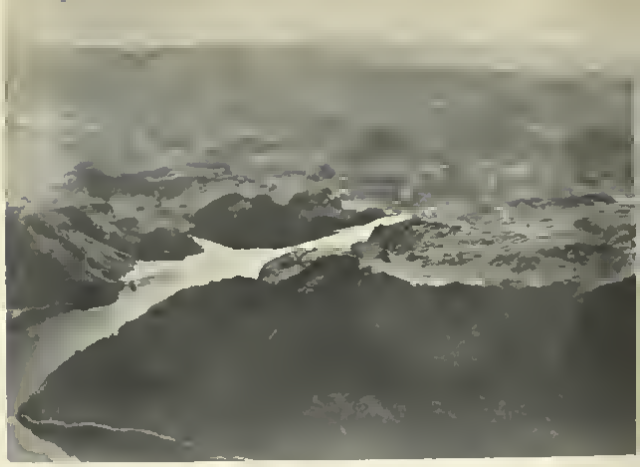


Conveniently located on Plaza IV, the New York World's Fair building of the Eastman Kodak Company, vigorously modern in every detail, will house an enormous exhibit symbolic of photography's growth and progress in the past century.

The building, with a total area of 22,000 square feet, is set in a beautifully landscaped plot covering an area of more than 42,000 square feet.

Pictured above is a view of the building showing the photographic garden. This garden is a beautifully landscaped plot to add further to the entertainment of visitors to the exhibit. Here they may take souvenir snapshots of their friends and relatives in interesting and attractive settings—some with photo-mural backgrounds if they choose.

Shooting from Air Uncovers Camera Marvels



View of Black Canyon, near Boulder Dam

By Richard B. Stith

(Flier and Photographer)

A VIRGIN field of photographic marvels is open to camera enthusiasts who have not yet taken to the air for "something different."

Western States offer probably greater opportunities for minicam and movie addicts than any other area in the nation.

Supposing you were to plan a vacation in this Western wonderland for this year. You can easily cover seven states in fourteen days. All that is needed is to back your pleasure jaunt with a traveling bag and a good supply of film. If you motor, you might get as far as Boulder Dam and find so many photographic possibilities that your vacation would end right there.

So climb aboard an airship, plump yourself into that comfortable chair near the after part of the cabin, have your filters at hand and keep an eye peeled for a shot. You won't have to wait long.

If you should sit forward, you will find that the plane wing serves as an excellent sunshade under most conditions. You cannot depend too strongly on your light meter, for you will often be fooled by the reflected light of the metallic wings. Your judgment, therefore, should be tempered accordingly.

Filter Will Cut Haze

Much of the haze, present under average conditions, will be cut with a good filter. You will obtain generally excellent results at f.8 when shooting from the air. Do not be overmuch concerned about your traveling speed. The stewardess may tell you you are scooting along at two hundred miles an hour, but do not let that warp your judgment when setting your camera speed.

If, at Los Angeles, you board the Western Air Express plane to Salt Lake, you won't wait long for the first chance. You will have Mint Canyon, the great Mojave Desert, then later, Lake Mead and Boulder Dam. The pilot will obligingly give you an oblique angle as you circle the great structure and you can bang away to your heart's content.

In fact, a gentle hint to the stewardess that you are anxious for such-and-sucb a shot usually works wonders. The pilot is probably a nut on the subject, too.

A few minutes later colorful Cedar Breaks are below. If you have color film you stand a cinch to catch something "arty." Next is Zion, where rock formations suggest every sort of photographic possibility. Of course, there is nothing preventing you from stopping over long enough for side trips to these places.

Stop at Yellowstone

At your first destination you will find Salt Lake City a colorful metropolis. The Mormon Tabernacle, Salt Lake, the Wasatch range and many other familiar landmarks are there waiting for the "new" treatment you want to give them.

Continuing north to Idaho, you will find a bird's-eye view of Bingham Copper Mine—the largest open cut mine in the world—at its best from the air. The Snake River Valley of Idaho is a favorite photographic subject for all who fly over it.

Your Mainliner stops at Yellowstone, where ground and air offer probably the greatest possibilities for the amateur photographer in the world. You could spend a week here and only touch the edges when it comes to recording sights on film.

Continuing north, your ship passes over the Continental Divide, where rivers decide which course they will take to the sea.

In Montana, you have the "old West" at its best, and of course the great Anaconda Copper Mines and smelters.

At Great Falls, you may hop off for a side trip into Glacier, where scenic grandeur is unrivaled in all the world—another place you might spend a week if your schedule didn't call for the westbound Northwest Air Lines ship to Seattle.

And there is the finest harbor in the world, the green, fertile valleys of Washington, Mount Rainier and the colorful waterfront.

Columbia River Gorge

At Portland, your ship gives you a view of the wide expanse of the great Columbia and Willamette River basins. There is time for a side trip up the Columbia River gorge and probably one of the most photographed river beds in the world. Bonneville Dam is the newest subject matter offered.

Off southward again, through your state capitol at Sacramento, the Imperial Valley and into San Francisco, where the World Fair will be well worth recording on film.

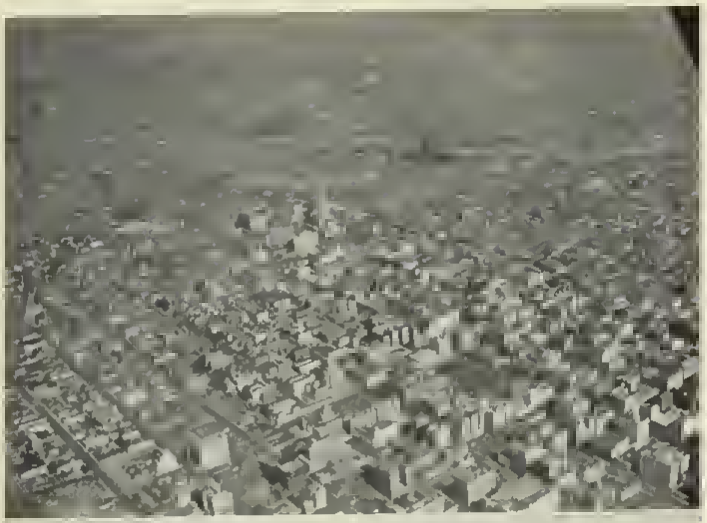
For scenic and manmade marvels (the Bay bridges) the Golden Gate City is unrivaled. Again your color film will come in handy if the Bay obliges with one of its glorious sunsets.

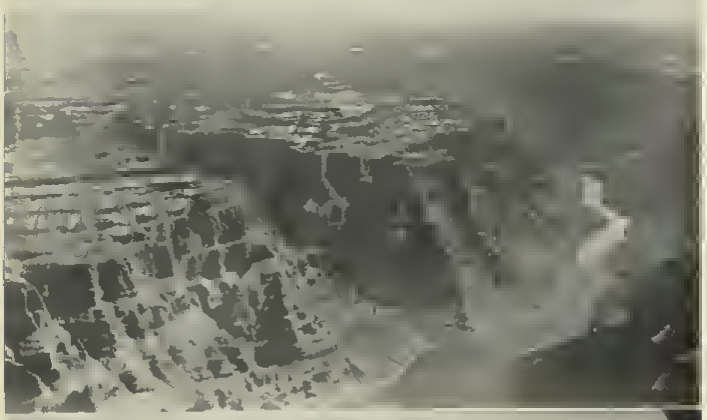
You top off your photographic cocktail here and return home on your United Air Line plane with a trip that will be long remembered, because you will travel it year in and year out again through your scrap book. Such a circle tour would be a lifetime of sightseeing for just two weeks of your 1939 vacation.

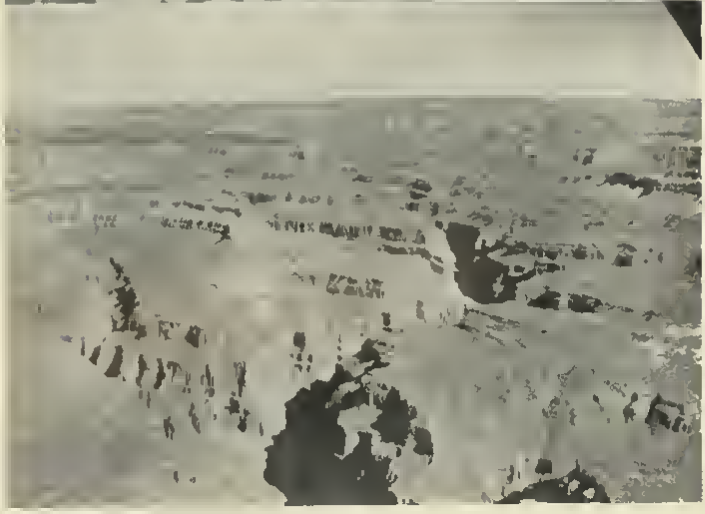
Filming for Memento

But here we are; we have outlined our whole trip and have not decided what type of pictures we are going to take. It is one thing that must be decided before we start.

Are you going to try for those spec-







Top, view of Los Angeles. Center, upper end of Lake Mead, where the Colorado River enters. Above Zion Park

tacular unreal photographic effects, or are you going to try to photograph the lovely scenery as it actually appears, so that months after the trip has been made you can review your films and see the scenery as it actually appeared?

If you are shooting black and white and wish to reproduce things as they appear to the eye, about the only things needed are a good panchromatic film and an aero No. 2 filter. If you shoot color, do not use any filter at all.

There is much discussion about filters for cutting the haze on color film, but after all, that haze is actually there when you see it with the eye so why try to take it out.

Spectacular photographic effects are all right when you are building a drama and using actors, but in the final analysis your film and mine are very beautiful travelogues, so why not try to make them reproduce the scenery as near as possible.

When shooting from the air you probably will be warned about all the troubles that you will have in shooting through the glass windows of your air transport, but do not let this deter you in your efforts.

There have been many thousands of feet of beautiful black and white and color film shot through the windows of Air Line transports, and there is absolutely no reason if you are careful, watch your halation and reflection on the glass that your films cannot be just as good.

Shoot at 64 a Second

Obviously it would be impossible for you to take the door off the ship you are flying in and bolt a tripod down to the floor. A short cut that will give just as good results when viewed upon the screen is to shoot your film at 64 pictures a second. This extremely high speed will permit hand holding and will smooth out the bumps or vibration when the picture is run at projection speed on your projector and screen at home.

However, do not forget that the faster a film is run through the camera the larger the lens aperture that must be used.

Light meters are very important in aerial work. As stated earlier in this article if you will watch for a kick-back off the wings and be careful of your readings, you will find that your meters are just as dependable as ever and can be trusted implicitly.

Ninety per cent of the bad results from light meters is the user's fault and not in the fault of the meter.

So get out your camera and your accessories, clean up your lens and try aerial filming. It is a grand sport, and with proper care marvelous results may be obtained.

Mr. and Mrs. Perce Marples—on the left in a passport picture. On the right they are shown between their home in the South Seas and the ocean.

Mr. and Mrs. Marples Film South Seas

TAHITI, the pearl of the Pacific . . . the isle of romance and beauty . . . where snowy terns sparkle against the azure sky . . .

"And graceful palms bend and sway in the cool trade winds . . . where the steep verdant hills roll down to a coastline indented by innumerable bays that have offered alluring shelter for ships since the Bounty anchored here 150 years ago . . . or to a rocky beach unprotected by the usual barrier reef . . . where dark valleys carry bubbling streams of cool, clear water that empty into lagoons of infinite stillness and beauty . . . where quiet lanes are paved with coral and banked with heavily perfumed tropic flowers . . . such as Frangipanni . . .

"The beautiful Bougainvillea . . . and the stately Flambuoyant . . ."

And that is the point in "Islands Under the Wind" where we will fade out before we see that same thing on the screen marking the end of the picture's first sequence. But the vocal record voiced by Perce Marples gives the beholder an idea of the lure that goes with these pictures of the South Seas as Marples and Mrs. Marples found it and as we see it reflected in 1250 feet of Kodachrome on the screen.

The Marples were in the South Seas from January of 1938 to November of the same year. They came away enchanted with the atmosphere. Marples, in fact, thinks so well of his experiences in the islands he is seriously considering being back there and with a boat of his own under him.

The location geographically is something parallel to Hawaii. Where that territory of Uncle Sam is about 1200 miles north of the line Tahiti is relatively the same distance south.

A trading schooner on which the Marples will sail away for a visit to one of the rarely visited South Sea Islands—an island where but three times a year those who live there see visitors.

Tahitian Documentary

The Marples, by the way, showed their picture at the March meeting of the Hollywood Forum. There was a narrative by the authors-producers as well as a musical score. The theme was the life of a Tahitian family, living in their simple, extremely primitive, almost idyllic way. Also there were side trips on trading schooners to neighboring and distant islands. There the visitors looked in on other peoples—and participated in their feasts and celebrations.

Mr. and Mrs. Marples saw the South Seas not as tourists. They did not register at one of Papeete's hotels. They went out of town a distance of fourteen miles and rented a house that was to be built for them. To a question as to whether the house was on the ocean the answer was returned that all visitors from the more settled parts of the world always were given homes on the ocean.

As to their food they lived like the natives, largely. Meat was brought out to them twice a week. Food grows luxuriantly the year around. There are three seasons, those of the fei, taro and breadfruit. These overlap. The Tahitian natives, too, really are neighborly. They bring foodstuffs to the door in abundance. Then, too, of course fish are in the market the year around.

Smokes Are Cheap

The food problem plainly is not one of supply; rather it is one of consumption.

In the matter of wines and liquors and cigarettes prices on the latter are less than in the United States; in the wet goods the cost is less even than in France.

(Continued on Page 237)

TRACE DOCUMENTARIES' BEGINNING BACK TO 1932

Editor American Cinematographer

WE are indeed happy to read articles on the "documentary film" in your magazine. For as adherents of this form of film we feel too little attention has been given to the documentary film as a vital force in the film world today. Its growing importance in the field of education justifies more discussion on its problems and history.

Mr. Schustack has made ample definition of the scope of the documentary film in the United States. However, there was a documentary center here in America as early as 1932. This center began with a group of film and photo clubs known as the Film and Photo League

Clubs were situated in New York, Chicago, Boston, Washington, Detroit and Los Angeles. Their program was that film shorts, either 16mm. or 35mm., could serve a very useful and important function both socially and educationally if it dealt with important topics of the day such as unemployment, housing, etc

The films were not newsreels, but thought-out problems in presenting facts. For instance one 16mm. film was produced on the waterfront dealing with unemployed men who live and from time to time work there. Here was a task not merely to make a newsreel record but to dig into and understand what these men did, felt and thought from dawn to dusk.

For days scenes were photographed by members of the group who went down to the waterfront as early as 4 a. m. to catch the men waking up from their benches to look for work as stevedores on an early ship arrival. The effect of the film is shown by the praise it received from the then film critic of the New York Times, Andre Sennwald, who saw it at a private showing

Other films of similar nature followed and were widely shown in clubs, colleges and schools. Today, although the Film and Photo League no longer exists, many who are today practising documentary film received their primary education and instruction and guidance from association with the group.

Today Contemporary Films, as an extension of these groups, is producing documentary films dealing with the little-considered, yet important problems of the consumer. Two of a series of such films have already been produced and received the widest distribution of many documentary films, even to the extent of playing in the Filmarte Theatre in New York City for twenty-six weeks straight.

A third in the series is being planned for early spring production. This series is called the Getting Your Money's Worth Series and has been praised by Esquire and trade magazines for its novel subject treatment.

And, although this is the main work of the company, other projects are on hand, for instance, a film on the life of a dairy farmer. An experimental film in psychology is another. The persons responsible for the production of "Getting Your Money's Worth" are Julian Raffman, Robert Del Duca and Victor Kandel. HARRY KLEINMAN,

1451 Broadway, New York City.

March 7, 1939.

Name Witherspoon as Head of Spencer Lens Company

Following the recent annual stockholders' meeting of Spencer Lens Company, Scientific Instrument Division of the American Optical Company, the following officers were elected:

H N. Ott, chairman of the board of directors; B. H. Witherspoon, president and general manager; H. D. Rhynedance, vice president and general sales manager; B Glenny, treasurer; C. W. Barton, secretary and manager of research and development.

As chairman of the board, Mr. Ott, under whose leadership as president since 1919 the company has achieved world wide recognition, relinquishes active executive responsibilities.

Mr Witherspoon, who has had broad experience in sales, engineering, and research and development work, has been active in the management of Spencer Lens Company since 1935, serving as a member of the executive committee and vice president and general manager, from which position he now assumes the presidency.

B. H. Witherspoon, president and general manager Spencer Lens Company.

B&H Now Lists 365 Silent Film Titles in Catalogue

SIGNIFICANT increase in the production of silent films and the apparent trend to the educational in subject is shown in the recent revision and enlargement of the Bell & Howell rental and sale catalog of 16mm. silent films. This catalog now lists 365 silent film titles. Of these 58 have been added since the last printing, about six months ago.

The 58 silent film titles added by Bell & Howell in the new silent catalog edition compares with 82 titles added in the new supplement to the Filmosound Library rental catalog, just published, raising the total of titles in the sound library to over 1100, comprising more than 3000 reels.

There is virtually no new production of silent film dedicated specifically to entertainment. Silent films have gone "educational." The talking picture is demanded nowadays for entertainment, whether for school, church, institutional or private home.

Either or both the new film catalogs mentioned are sent free to owners and users of 16mm. projectors. It is only required that mention be made of the make and model of projector and the dealer from whom it was purchased It should be indicated clearly whether the projector is sound or silent.

Kalart Issues Booklet

A new illustrated 36 page manual on speed flash photography has just been published by the Kalart Company. This is one of the most comprehensive ever published on the subject.

Examples of prize winning pictures are shown as well as Synchro-Sunlight, action and sport pictures. Complete exposure charts for distance and the various size flashbulbs, including both the foil and wire types, are given in this manual. In addition the charts contain exposure recommendations for all films.

The manual is free and may be secured by writing the Kalart Company, 915 Broadway, New York.

Important Ampro Notice

Effective April 10, to facilitate production in the Ampro plant, it has been decided to drop the following Ampro models from regular standard line of equipment and notice is given to Ampro's dealer organization and to the trade that these models will be excluded from the manufacturer-retailer fair trade agreement which has been in effect since June 11, 1938:

Ampro silent projectors, Models J, JS, K, KS and Ampro sound-on-film projector, Model M.

New Eastman plant, extensive addition to a camera factory already the largest in the world, as it will appear when completed. Here will be produced the finest precision cameras, made by the largest group of American craftsmen ever assembled in the photographic industry.

KODAK PUTS UP BUILDING AND CUTS DOWN PRICES

IN 1938 more than $100,000,000 was spent on amateur photography in the United States. Sales in cameras and photographic supplies shattered all records and the year ended with a new high of more than 18,000,000 cameras in active use in this country.

With confidence in the future the Eastman Kodak Company has announced an unprecedented expansion program to maintain this momentum.

Construction is well under way at Rochester on an addition to the largest camera works in the world. Facilities for precision manufacturing plus greater and more efficient production will cut manufacturing costs, and this anticipated saving is being passed along to Mr. and Mrs. Amateur Photographer, via lower camera prices effective March 1.

The reduction in some prices is a quite substantial one, these savings to apply on the newest and most popular 1939 Kodaks.

Never before, according to the Eastman Company, have fine, precision-made Kodaks sold at such low prices. Lower prices apply to the new series of Kodak Bantams and Kodak 35s announced the latter part of 1938. Price reductions bring these cameras well within the means of amateurs who have wanted a fine miniature camera with a fast, reliable, color-corrected precision lens, not only capable of taking excellent pictures in black and white, but with Eastman's Kodachrome the full color film.

With these lower prices, Kodaks with fine, sharp, precision-built Kodak f.4.5 Anastigmat lenses can now be purchased as low as $22, the lowest in the history of the company.

Price reductions, however, are not confined to cameras in the higher priced brackets, but go down the line to the Bullet, which is now priced at $2.

St. Paul Moviemakers

Members of the St. Paul Amateur Moviemakers Club all joined in producing the synchronized sound effects for a film of the St. Paul Winter Carnival Parade at their regular meeting March 21.

The film was made by Vice President John Scott. The musical background was made with dual turntables, and the crowd noises were contributed by the eighty persons who attended the meeting.

Following the sound recording so many films of the carnival activities were offered for projection that two screens were used simultaneously in the club's first attempt at multiple projection.

The club meets the first and third Tuesday of each month in the Commodore Hotel. Movie fans are welcome at the meetings.

Palmer B&H Manager

Mervin W. Palmer, well known in the motion picture industry for nearly thirty years, has been appointed service manager of the Bell & Howell Company, New York branch.

Mr. Palmer was connected with the old Biograph Studios in New York from 1912 to 1920. For two years he was chief engineer for the Paramount Studio at Astoria, L. I. His more recent connections have been with Motion Picture Lighting and Equipment and International Projector Corporations. Also he is active in the Society of Motion Picture Engineers.

NEW CAMERA BUGGY — Photographer Victor Milner, A.S.C. points out the many features of the new Paramount camera buggy which has just been put into use on fourteen stages at the studio. The interested onlookers are Jackie Cooper and Director Theodore Reed (center) of "What a Life!" which Milner is filming. The new buggies eliminate carrying of a dozen or more separate boxes with various parts of the camera equipment. It is made of dural metal and weighs less than 25 pounds empty. Tiny pneumatic tires, silent hinges, a folding top, fireproof film compartment are among the features.
Photo by Edward Henderson.

LITTLES' PARTY MAKES REAL HIT IN ITS TENTH

ON Friday evening, April 14, Mr. and Mrs. Duncan MacD. Little presented, at the Barbizon-Plaza Theatre in New York City, the tenth of their series of Annual Movie Parties, which have been described by a London magazine as the most amazing development of amateur films. And the show was a genuine success from all angles.

This year the party was thrown open to the public at large, instead of being restricted to friends and acquaintances of Mr. and Mrs. Little, and tickets, at $1.50 each, were assigned in order as applications were received.

In former years attendance had been by invitation only, and so great had become the demand for invitations that in 1937 it was decided to hold the party in the Salle des Artistes, but the Salle proved of insufficient size, just as had the ample living room in the Little home.

Immediately after the 1937 show, Mr. and Mrs. Little were invited by the Division of Film Study of Columbia University, to make their Ninth Party (for 1938) an integral part of the program of "The Motion Picture Parade" conducted by the University, and they were also invited to arrange an International Amateur Film Show, to reach beyond the scope of the Parties, and to comprise, if possible, the best amateur film from each of as many foreign countries as would participate.

The two schemes were adopted, and the campaign was launched. This magazine told, last spring, of the success of these shows, and gave in detail, full particulars concerning the films that were exhibited.

Despite that "Film Study" threw its doors open to the public for both the Ninth Party and the International Show, the Salle des Artistes was again crowded beyond its reasonable capacity at the Preview to which the Littles' friends and "regulars" were invited. Something drastic had to be done.

The costs of these annual movie parties had mounted to a sum that was more than one person should bear, willing as that person might be, and anxious as he might be to advance the status of Amateur Films. It was decided to try a distinctly new method.

The public would be asked to support and to pay for the show. This would also provide a gauge to estimate whether or not the public was really interested

Having no desire for financial profit from their movie activities, Mr. and Mrs Little asked the trustees of the Peabody Home for Aged Women to sponsor the Tenth Annual Movie Party, and to accept whatever surplus there might be over the necessary and not inconsiderable expenses of the party

This offer was accepted, the basis being that the Peabody Home assumed no responsibility nor was to make any effort to sell tickets.

The New York Herald-Tribune of April 15 gave the following account of the show:

As Herald-Tribune Saw It

Eight outstanding motion pictures, produced by amateur cinematographers in the popular 16-millimeter film size, were shown last night to an audience of 500 persons at the tenth annual "movie party" given by Mr. and Mrs. Duncan MacD. Little.

This year's show, held in the auditorium of the Barbizon-Plaza, Sixth Avenue and Fifty-eighth Street, was conducted as a benefit for the Peabody Home, 1000 Pelham Parkway South, the Bronx, an institution for elderly women.

The films selected for projection last night were chosen by an independent jury from twenty-four entries. Films made by amateur photographers in Poland, Japan, Australia and the Philippine Islands were included in the show.

A short documentary film, showing the buildings and some of the activities of the Peabody Home, introduced the regular program, first item of which was "Nation Builders," filmed by James A. Sherlock, of Sydney, Australia. This carefully produced picture, winner of the grand prize in the 1938 contest of the American Cinematographer, depicted the growth of civilization on the Australian continent since the arrival of the first English explorers, with its industrial plants, modern cities and major sheep-raising industry.

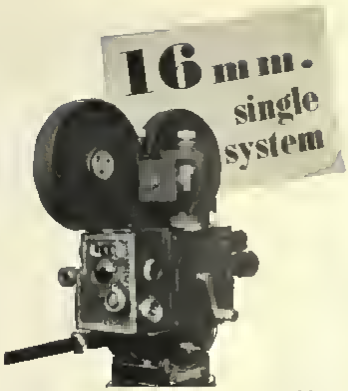
Ghost Story Filmed

"Ritual of the Dead," one of the most interesting of the productions, was a ghost-story—the hectic tale of an explorer who murdered two comrades to get possession of jewels found in an ancient tomb, and in the end was haunted to suicide by a mummy of ghastly appearance. The producer, Richard H. Lyford, of Glendale, Calif., was nineteen years old when the film was made.

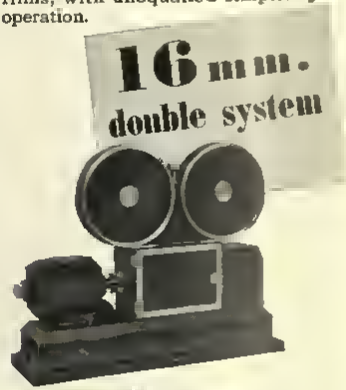
"Climbing in the Dolomites," by Christine L. Reid, of Brookline, Mass., showed the methods used by two Alpine guides in scaling a rocky and dangerous peak. The close-ups were remarkable, especially since the photographer had to make the climb with them, at times carrying her camera in her teeth.

"Ski-Legs," the only other film with a dramatic scenario, was an ingratiating comedy satirizing the fads of skiing and candid camera photography, and leading up to a cleverly staged ski race. It was

(Continued on Page 238)



Whenever it is necessary or desirable to make the sound track on the same negative with the picture, use the compact, portable B-M Sound-Pro Camera. It produces professional quality 16 mm sound films, with unequalled simplicity of operation.



For utmost flexibility in the various steps of filming, separate recording of sound, re-taking, re-recording, cutting and editing, use the B-M Model D Double System — the type of equipment employed to record the sound of more than 84% of all professional productions.

Explain your sound movie problems and requirements and ask for bulletin No. AC-5.

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ENGINEERS' HOLLYWOOD CONVENTION AGAIN HITS HIGH MARK

THE Society of Motion Picture Engineers, as is customary in alternating years, held its spring convention this year in Hollywood. The gatherings, as was the case in 1937, were held in the Hollywood Roosevelt. And in accordance with its established custom the society's sessions were held practically at the announced time—which is something at any kind of a convention.

April 17 at 10 o'clock in the morning marked the opening. Until 10:10 in the evening of Friday, April 21, the program was unreeled with mathematical or if you will say engineering precision.

The sessions opened at the appointed hour on Monday with a report by W. C. Kunzmann, convention vice president and chairman of the convention committee. It closed Friday evening at 10:10 with a paper on "Design Problems in Television Systems and Receivers" by A. B. Dumont of the Allen B. Dumont Laboratories of Passaic, N. J.

There were two exhibits which attracted special attention—and they were on the opposite poles at that—of the new equipment and of the color stills. Of the latter O. O. Ceccarini of Hollywood was the chairman and of the equipment J. G. Frayne, also of Hollywood, was chairman. The equipment show was described as the best one ever to be held by the engineers.

The program included everything having to do with sound as well as with photography. Television was allotted unusual time. So also was 16mm. on the sound side.

Two mass visits were made to studios—to Paramount on the afternoon of Tuesday and to Warners' at noon of Thursday. At the Paramount the host was Loren L. Ryder, director of recording. The guests were limited to the men and women registered inasmuch as facilities were confined to 250 persons.

Saw Background Shooting

The visitors were given an opportunity to view projection background shooting and visit stages where special effects and miniature work are carried out. Visits also were made to the sound and dubbing departments as well as production stages where actual photographing was witnessed.

At the Warner studio the engineers' party were guests of Major Nathan Levinson, director of recording. Visits also were made to the wardrobe departments and to the new units of the crafts building. In addition to a general sightseeing tour of the lot, what was of particular interest to the engineers was the opportunity to inspect Fred Gage's laboratory. Luncheon was served at the studio.

In the color stills showing there were thirty exhibitors, with a total of 150 prints. There were many examples easily worth walking a mile—at least—to see. Among the exhibitors were:

E. W. Benson, North Hackensack, N. J.; Charles W. Burgess, Minneapolis, Minn.; Whiting-Fellows, New York; Pagano, Inc., New York; Paul A. Hesse studios, New York; Victor Keppler, New York; E. L. Letten, Toronto; Goesta P. G. Ljungdahl studios, New York; Nickolas Muray and Associates, New York; James Pickands, II, New Haven; Chester A. Pleadwell, Flint, Mich.; Defender Photo Supply Company, Inc., Rochester; Shigeta-Wright, Inc., Chicago; William Stevenson, Cleveland; Wynn Richards, New York.

Van Damm studio, New York; W. G. Houskeeper, South Orange, N. J.; Wilfred H. Wolfs, New York; Max Hirsch Jr., Long Island; Paul Outerbridge Jr., New York; James N. Doolittle, Los Angeles; Nicoll-Pratt Corporation, Los Angeles; R. T. Dooner, Philadelphia; Charles H. Miller, Chicago; K. L. Henderson, Rochester; Ralph Boyle, Philadelphia; Frank Miller, Everett Moses, Chicago; C. O. Ceccarini, Hollywood; H. I. Williams studio, New York.

New Equipment Shown

Among the equipment firms were Mole-Richardson, with new lighting equipment; R. C. A., with the latest in sound equipment; Newmade, with accessories; Lansing, amplifiers and loud speakers, etc.; International Projector, with the latest in sound projection; Erpi, demonstrating newest recording equipment; Eastman, with its new Cine Kodak Special, including reflex finder, image magnifier, optical finder and motor drive. Also shown was the Kodascope, Model G.

Moviola showed its new preview equipment, and Norman Neely of Radio Enterprises displayed his equipment for recording and playback. This was given a demonstration the night of the banquet, when without tipping off the guests a recording was made and shown at the conclusion of the talks.

Among the papers read on 16mm. sound were:

"The Present Technical Status of 16mm. Sound-on-Film," J. A. Maurer, Berndt-Maurer Corporation, New York. (Demonstration.)

"A High-Intensity Arc for 16mm. Projection," H. H. Strong, Strong Electric Company, Toledo.

"New 16mm. Recording Equipment," and "Notes on French 16mm. Equipment," D. Canady, Canady Sound Appliance Company, Cleveland, Ohio.

On the evening of the final day the entire time was devoted to television. Among the papers read were:

"An Introduction to Television Production," H. R. Lubcke, Don Lee Broadcasting Company, Los Angeles,

Report of the Television Committee, A. N. Goldsmith, chairman.

"Application of Motion Picture Film to Television," E. W. Engstrom and G. L. Beers, RCA Manufacturing Company, Camden, N. J.

"Continuous Type Film Scanner for Television," P. T. Goldmark, Columbia Broadcasting Company, New York.

"Television Studio Technic," A. W. Protzman, National Broadcasting Company, New York.

"Television Lighting," William C. Eddy, National Broadcasting Company, New York.

"Design Problems in Television Systems and Receivers," A. B. Dumont, Allen B. Dumont Laboratories, Passaic, N. J.

Among the many papers read were the following:

Brief Review of Foreign Film Markets during 1938. Nathan D. Golden, Motion Picture Division, U. S. Bureau of Foreign and Domestic Commerce.

American motion pictures continued to

Hollywood Engineer Designs New Type of Meter

(Continued from Page 201)

flected toward the positive plate, in proportion to the current it carries.

With two sets of deflecting plates, set at right angles to each other, the dangerously near either the upper or lower limits of the film's latitude, where such a point was, and to correct it. Similarly, the pattern as a whole should give a quick indication of overall exposure values.

The amplifier gain control could be calibrated either in terms of film-speeds or in f-values for a given emulsion speed. It is fortunate that the conventional gain control is calibrated in units following a similar logarithmic progression to that of the familiar f-system.

Speaking of his invention, Franklin remarks: "As a result of being able to determine quickly and accurately not only the overall exposure but the contrast relations for each scene photographed, the cinematographer will be able to get constantly the best tone reproduction that the film is capable of rendering from any given scene.

"While the skill with which modern cinematographers balance light visually has become a byword, it should nevertheless be very helpful to have a device like this which will at a glance inform one if any portion of his lighting is above or below the limits of his film's latitude and precisely where that spot is

Eliminate Correctives

"Such a device should also go far toward eliminating the need for the laboratory's corrective manipulations of under or over developing the negative, or printing the positive up or down with their attendant losses in undistorted tone reproduction.

"The Multiscope meter will enable the cinematographer to ascertain the contrast relations between people and background, to know the light levels of all portions of the scene, to know more accurately how colors reproduce in monochrome (some shades still can fool even the trained eye), and to determine the amount of correction afforded by filters under various outdoor operating conditions.

"Since the infra-red film used for filtered night-effect scenes utilizes light invisible to the eye, there is often a good deal of uncertainty in making infra-red exposures.

Achieve Superior Results

"This instrument will eliminate or greatly reduce these difficulties and make it possible to achieve superior results consistently.

"It is obvious that an instrument which accurately will determine both exposure and contrast relations in terms of film response not only will minimize errors on the set but in the laboratory as well, since it will afford a more consistent negative, which in turn can be processed by more consistent methods.

"It should also eliminate or greatly reduce the need for tests in the laboratory or hand tests on location or set.

"In all of this, the Multiscope meter can be used only as a guide: it cannot balance the light for the cinematographer nor force him to work according to formula. But it will leave his artistic talents a freer scope, with fewer technical worries since it shows clearly and quickly anything that throws the lighting of any portion of the scene beyond the safe tolerances of the film used.

"It will, in other words, eliminate a lot of guesswork and routine worry, making it possible to obtain higher artistic achievements since the photographer need trouble himself less about routine drudgery."

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- Reeves Lites
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Agfa Ansco Adds f4.5 to Its New Memo Camera Line

Following closely on the heels of the introduction of the new Agfa Memo camera word comes of a second model of the new 35mm. miniature camera from its makers, Agfa Ansco Corporation in Binghampton, N. Y. This latest addition to the Agfa camera line is equipped with an f4.5 lens and retails for $25. The first model of the new Memo camera to be announced, listed at $35, is equipped with an f3.5 lens.

In all other respects, the more recent f4.5 Memo is exactly like its counterpart, being a "double-frame" model giving 24 pictures, 1-7/16 by 15/16 inches, on each cartridge of film. It provides the same exclusive features of simplified loading and sliding bar mechanism that advances the film in one rapid motion, and eliminates window-watching.

Also retained on the f4.5 model are the 1/2 to 1/200 second shutter, automatic exposure counter, depth of field scale, brilliant, direct view finder, neckcord and eyelets, accessory clip, tripod socket, pressed steel frame and other construction features.

Let's Edit a Travel Film

(Continued from Page 208)

which was draped around an inverted salad bowl, which served nicely as an igloo. A few midget trees and miniature reindeer were stuck in the ground, along with a toy Eskimo whose size was proportionate to the other props.

The house was set off at one side, thus leaving a wide expanse of white for folder filming. The whole set was sprinkled with packaged store snow.

With three No. 2 photofloods placed in reflectors about three feet away, the camera was loaded with indoor Kodachrome and the lens set at f/8. Shooting down at an angle, we faded in on the igloo and Eskimo, panning slowly to the left and stopping on the snowy expanse.

One by one, the West Indies and steamship folders fell slowly into the snow within camera range.

Next is a shot of the Eskimo and igloo, but snow has begun to fall and it looks like a blizzard in the offing. This is faked by permitting store snow to dribble down through the fingers, breath-blown lightly. The circulars are now snowed under completely.

Invert the Camera

To give the effect of snow evaporating or melting away, it would only be necessary to invert the camera and sprinkle the folders until they were covered. After the reel is processed, simply cut out the sequence, reverse it end for end, and there is your snow scene with the snow magically rising up toward the camera lens until it exposes clearly the top circular, which, in this case, was a closeup of the "Hiawatha."

Follow this with the long shot of the real train steaming away at the station, and there is your introduction. To simplify matters in our case, instead of inverting the camera we inverted the folders, shooting normally.

To bridge the cross-country gap between the northerly station scene and the southerly steamboat closeup, a color shot of the huge drivers was made during a scheduled departure. As the train picks up speed, the windows zoom by, and you fadeout as the streamliner races off in the distance.

This helped continuity, but, to add further smoothness, an over-the-shoulder shot of a United States map is revealed (presumably opened inside the train), and a heavy crayon pencil, starting at Minneapolis, begins tracing its downward course until Miami is reached. This is followed by the bow of the boat and the whistle, and our worries are

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Engineers Convene

(Continued on Page 231)

enjoy widespread popularity throughout the world during 1938, although the intensification of difficulties abroad has resulted in a drop of 70 to 65 per cent in America's domination of the world's motion picture screens.

The obstacles encountered have been of diverse character, including legislative restrictions, quota systems, high taxes, foreign-exchange controls, occasional excessive censorship, so-called "racial" theories, fervent efforts to build up local film industries, active hostilities in the Far East and Spain, transfers of territories, and such intangible factors as uncertainty and apprehension.

Spanish-dialog films have scored notable box-office successes in nearly every Latin American country in which they have been shown, locally produced pictures having often exerted a powerful appeal during the past year, because they have portrayed familiar aspects of life, in a language understood by the audiences.

On the other hand, a wealth of recent evidence demonstrates the grave defects and difficulties of the motion picture production attempted in certain countries abroad on wholly insufficient foundations.

An Instrument for the Absolute Measurement of the Graininess of Photographic Emulsions. A. Goetz, W. O. Gould, A. Dember, California Institute of Technology, Pasadena, Calif.

Simplifying and Controlling Film Travel through a Developing Machine. J. F. Van Leuven, Fonda Machinery Company, Los Angeles.

A developing machine is described in which the drive of the film is frictional and the film-carrying rollers are driven on the slack of the film. The first driving roller is slightly smaller in diameter than all succeeding driving rollers, thereby setting up a tension on the film throughout the machine.

The upper shaft of film-carrying rollers is held in peripheral engagement with the driving rollers by adjustable springs which have a mounting that is yieldable downward so that any excess tension on the film draws the film-carrying rollers away from the driving rollers until the excess tension has been relieved, which allows the film-carrying rollers to be drawn upward by the springs to contact the driving rollers again.

The driving rollers are directly over the upper film-carrying rollers. The driving mechanism is completely above the tanks and solutions, and all film-carrying rollers in the wet end are mounted individually free and, in turn, are all mounted on free-turning tubing or shafting.

Film-carrying rollers in the dry box, in addition to being mounted on Arguto bushings and individually free, are mounted on tubing which in turn is mounted with grease-seal ball-bearings on shafting, the entire unit being free to rotate or to slide laterally on the shaft, thus becoming self aligning.

To meet the high initial and maintenance cost of ball-bearings found in film-carrying spools, 7¼-inch film-carrying rollers are used throughout.

Film enters machine in a steady, constant flow. Tension can be altered by the operator and, when regulated by adjustment of springs, remains virtually constant throughout the machine. The steady flow makes great speed possible and yet retains a high factor of safety. The machine has the following attributes: great simplicity; entire freedom from precision maintenance; film is always under even adjusted control and does not slip on rollers; breakage from mechanical causes is practically eliminated.

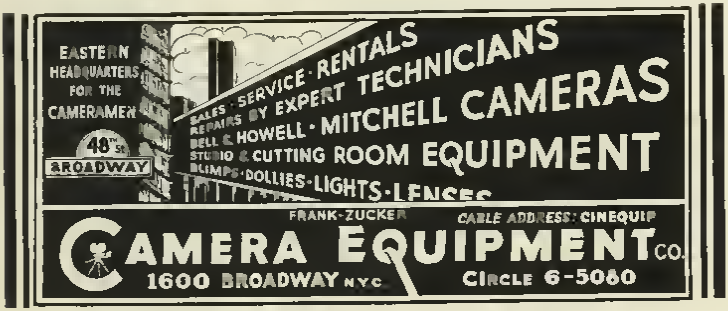
A High-Intensity Arc for 16 mm. Projection. H. H. Strong, Strong Electric Co., Toledo, Ohio.

A short description of a high-intensity reflector type projection arc lamp and associated rectifier equipment, designed as a light-source for 16 mm. projectors.

The Status of Lens Making in America. W. B. Rayton, Bausch & Lomb Optical Manufacturing Company, Rochester, N. Y.

When the modern optical industry was born, this country was predominantly agricultural. Its principal industrial developments related to transportation. It was natural, therefore, that Europe should have gained great prestige in the field of optics in the final quarter of the nineteenth century.

With the turn of the century, however, agricultural developments had about reached their limit and industrial activity began to occupy a larger place in American life. Along with others the optical industry felt the incentive to greater activity and the first fifteen years of this century saw a rapid advance in the



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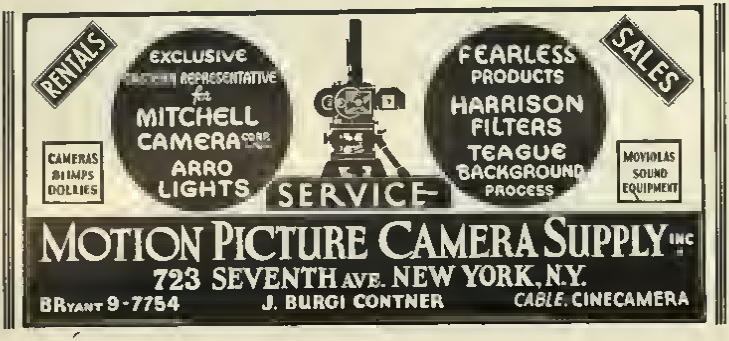

magnitude of the industry and improvement in the quality of its product.

We were still, however, completely dependent on European sources of supply for our optical glass and for some of the small-demand class of laboratory instruments. Then came the war that not only cut off all aid from Europe but ultimately led Europe to our doors with appeals for optical munitions.

The war only hastened what would have been inevitable anyway, viz., the complete independence of America in optical matters.

The American optical industry has now reached a point where its raw materials (optical glass) and its technical skill recognize no superiors. It can make any practical optical element or instrument for which quantitative specifications can be written.

Notes on French 16 mm. Equipment. D. R. Cansdy, Canady Sound Applisnce Company, Cleveland, Ohio.

A brief résumé of French substandard projection equipment of unusual design, including a general description of a practical applicstion of the new water-cooled mercury vspor lamp to 16 mm. projectors. Mention is made of an interesting projector that employs no sprockets, automatically adjusts the size of the loops, and raduces film wear to a minimum

New 16 mm. Recording Equipment. D. R. Canady, Canady Sound Appliance Co., Cleveland, Ohio.

A description of new 16 mm. equipment, including recorder, film-phonograph, and a new 35 mm. to 16 mm. reduction printer.

The Present Technical Status of 16 mm. Sound-on-Film. J. A. Maurer, Berndt-Maurer Corp., New York, N.Y.

Improvements in the technic of recording and printing during the past few years have made possible the production of 16 mm. sound-films, either by optical reduction or by direct recording, having considerably better quality than is being obtained in general commercial practice. By the use of a moderate degree of equalization in recording, it is practicable to obtain from 16 mm. negative prints giving a flat frequency response to 6000 cycles, with useful response to 7500 cycles, when reproduced through a flat amplifying system.

Harmonic and envelope distortion and speed variations can be kept within acceptable limits for high-quality reproduction. The principal remaining defect is background noise. Some general agreement upon commercial 16 mm. reproducing system characteristics is needed, however, before this improved quality can be made generally available.

Report of the Television Committee. A. N. Goldsmith, chairman.

Partial reports by the two sub-committees (A) on Television Production and Reproduction Technic, O. B. Hanson, Chairman, and (B) Film Properties and Laboratory Practice, O. Sandvik, Chairman. The scopes of activity of the sub-committees are described, and their program for the coming year. Among the items covered by these scopes are (1) glossary, (2) bibliography, (3) tutorial material, (4) dimensional practices, (5) normal equipment and procedure, (6) special problems such as inter-industry coördination, future equipment needs and specifications, etc.

A **Continuous Type Television Film Scanner.** Peter C. Goldmark, Columbia Broadcasting System, New York, N. Y.

A motion picture film scanner, the first of the continuous type to be used for television transmissions, is described. The apparatus was put into operation in New York City in the summer of 1937 and has been in use since.

Report of the Studio Lighting Committee. C W. Handley, Chairman.

An explanation is given of lighting problems from the viewpoint of the cinematographer. Certain advances in equipment and working tools remain in obscurity for a long period before they find their rightful places in motion picture set lighting because they seem to interfere with dramatic effect. If they possess merit, however, they are gradually adapted to general use.

A typical example is the light-meter,

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which is now going through the final stages of assimilation to studio lighting technic. New fast films have been brought into use and the resulting changes in lighting technic are now in the process of perfection. Recent changes in lighting equipment are described. Three new higher-speed negative films for the Technicolor process are being used. The effect of the new films on Technicolor set lighting is explained.

Methods of Using and Coordinating Photoelectric Exposure Meters at the 20th Century-Fox Studios. D. B. Clark, Twentieth Century-Fox Studios, Hollywood, Cal.

Consistency in negative printing values is one of the most desirable single factors in modern cinematography. Photoelectric light-measuring devices can help the cinematographer maintain such consistency to a far greater degree than is possible otherwise.

Not only tests, but actual production have shown that with the proper use of these instruments the entire output of the studio's camera staff can be so co-ordinated that, almost without regard to the photographic conditions prevailing on the set, all negative will print correctly within a range of three or four printerlight adjustments.

To make this coordination possible, several requirements must be recognized. Among these are a dominant, and by no means completely fulfilled demand for photocell meters of unfailing consistency; i. e., meters that are not subject to error from photocell fatigue, changes in humidity or temperature, and the like, and are sufficiently uniform that all the studio's meters may be expected to give uniform readings under any given conditions.

While these requirements are not wholly met in existing meters, it has been found possible to use such meters to advantage. Coordination is effected by use of a special, portable testing unit of the photometer type. In this a standard light-source is used in circuit with a battery and milliammeter, and controlled by a rheostat. When the light is brought to known intensities by the application of known currents, the photocell meter being tested must, if accurate, give predetermined readings.

Further logical developments, predictable on the basis of existing knowledge or equipment, should include complete acceptance of strict time-and-temperature methods of negative development and some form of automatic, photoelectric-cell-controlled print-timing.

This would remove all variables, including human fallibility, from the processing problem, and leave the responsibility for results solely in the hands of the cinematographer, who would in turn be guided by his meter in keeping within the tolerances imposed by film and processing and in his efforts to turn out consistently ideally exposed negative.

20th Century Silent Camera. G. Laube. Twentieth Century-Fox Film Corporation, Hollywood, Cal.

The camera operates without any sound-proofing box or blimp, weighs sixty pounds and is claimed to be the first instrument of its kind to function without the incumbrance of sound-proofing inclosures.

A microscope viewing finder is built into the camera and is brought into position back of the photographing lens by rotating the camera case, which is mounted in a yoke.

The monitor view-finder is rigidly secured to the side of the camera and does not pivot or swing. However, the image produced by it truly conforms to the image being photographed on the film. This feature enables the operator to work with the complete assurance of seeing exactly what is being recorded on the film and without having to guess or make allowances for such errors that arise from parallax and change of focus.

The camera derives its driving power from a motor mounted on the back of the yoke member and drives direct to the shutter. Either synchronous or a-c. interlock motors may be used and driven at shutter speed. This type of drive assures an even and undisturbed rotating motion of the shutter.

The film-moving mechanism, or the so-called camera movement, embodies elements of absolute precision and locates each frame of the picture with registering pins that remain stationary during the exposure. The film is moved from frame to frame at a slower speed than with former cameras and with uniform acceleration, overcoming film damage and loop slap.

The dwell time, or the period when the film is standing still and receiving the exposure, is long and allows for exposure with a 200-degree shutter. These features provide a means for producing pictures showing a superb quality of definition and freedom from defects.

Many features of convenience are apparent. The camera may be synchronized with projection process by looking through a special aperture and turning a knob at the back. The camera conveniently loads when on a low or high set-up. The operator has an unobstructed view of the set when lining up, and may look directly over the camera. All parts are completely sealed from the action of sand, dirt, and water. The camera turret mounts four lenses and provides a quick change from one to another. The freehead is a new hydraulic type, with adjustable drag on both pan and tilt members.

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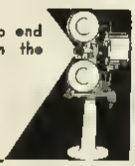

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"The Amateur Alpinists"

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Cast

Jack Wilson, one of a group of young people who succumb annually to a vernal ebullience and work it off by donning hiking attire and climbing the nearest mountains.

Judy King, Jack's girl friend, also similarly smitten in the spring.

Mable Stone, Judy's roommate, who joins the hiking party but with less enthusiasm and considerable misgiving.

Jim Stephens, Mable's boy friend who teases her about her lack of enthusiasm but loves her just the same. He, too, is susceptible to spring fever.

Miscellaneous assortment of other youthful couples, depending upon the number of cast members available who have the necessary wardrobe, equipment, etc.

Properties

Hiking outfits for the entire cast, including knapsacks, first aid kits, and other accouterments. One or more cars, preferably one large open model.

Scene 1 (Fade-in) (Interior-Medium)—Judy's and Mable's joint boudoir. Both are in their lingerie and donning their hiking habits, Judy enthusiastically, Mable listlessly. (Closeups at the director's discretion, as the girls dress, depending on the attractiveness of the two girls and their ability to pose, or "model" *without overdoing it*. But maintain the contrast of one's listlessness as opposed to the other's enthusiasm. It runs throughout the story.)

Scene 2 (Exterior long). Street in front of Judy and Mable's house or apartment house. A car rolls up to the curb and stops, preferably a large, open car. In it are Jack Wilson and Jim Stephens, garbed in outing or hiking clothes. (Whether they arrive in their own separate cars is optional. Then, too, all others in the cast, if any, should arrive in this scene, as this is the rendezvous for the day's outing.) As the car rolls to a stop, the driver leans heavily and repeatedly on the horn button.

Scene 3 (Closeup). Driver pushing and repushing horn button.

Scene 4 (Interior medium). The two girls' boudoir. They are nearly dressed. Both girls hear the horn simultaneously. Judy runs enthusiastically to the window and waves. Mable makes a grimace.

Scene 4 (Closeup). Judy at window. She raises it and, leaning out, motions to the two boys to come on up.

Scene 5 (Long). Over Judy's shoulder shooting out and down on the two boys as they hastily and enthusiastically climb out of the car and hurry toward the front door.

Scene 6 (Medium). Judy crosses from window to door, which she opens and stands waiting for the boys. Mable, still bored and listless, with a slight martyr like expression—(she's a self-admitted "good sport")—is putting on some finishing touches.

Scene 7 (Same as scene 6). Jack and Jim enter. Jack embraces and kisses Judy as she stands in the doorway. Jim crosses and likewise embraces Mable. For one, brief, fleeting instant, Mable's face lights up with interest—keen interest—as Jim approaches her for his embrace and kiss.

Scene 8 (Closeup). Jack and Judy kissing. They are very much in love in a reckless, healthy, athletic, spontaneous, exuberant sort of a manner.

Scene 9 (Closeup). Jim and Mable kissing. Just for the brief instant of her receiving Jim, and as she reciprocates his fervid kisses with equally torrid osculations, does Mable's face reveal any interest. This interest seems extreme in direct contrast to her utter lack of interest in everything else. She's a very serious sort of a person for which Jim loves her immensely much. While Jack and Judy are peas from the same pod, so far as personalities are concerned, Jim and Mable are "opposite types." Both couples get along extremely well, which upsets lots of psychological theories. However, as soon as Mable leaves Jim's embrace she lapses back into her listless and bored attitude about the hike, or outing. To her it's a waste of time.

Scene 10 (Medium). The two couples

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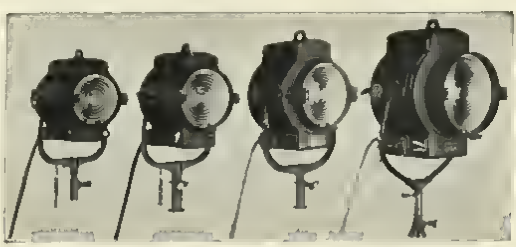

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break away from their clinches and gathering up the things that they are taking with them there is much hustle and bustle. Finally, laden with blankets, lunch baskets, thermos bottles, etc., etc., they exit.

Scene 11 (Long). Through windows in girls' room, shooting out and down, as they pile the stuff into the car and board it and prepare to drive off. If there are others the whole caravan is preparing likewise.

Scene 12 (Exterior, medium). Down in the street as the car (or caravan) is about to drive off amid much noise and gaiety. As the car (or last car in the caravan) drives away into the distance (Fade-out).

Scene 13 (Fade-in, exterior). Atmosphere shots of sky, clouds, trees, mountains, or other landscapes to establish mood. These types of shots, including others of wild life: animals, birds, flowers, etc., maybe cut-in throughout the picture.

Scene 14 (Medium). Car (or caravan) arrives at destination. It's either the base of a mountain, or a comparative molehill, depending on the locale of the cinemakers. Wherever it is that the hiking party that is to begin has arrived. They disembark and assemble packs, knapsacks, hiking staves, etc. One of the boys enthusiastically leads the way with enthusiastic but impractical haste. The rest follow.

Scene 15 (Long). The file of hikers as they wend their way up a trail, Jim and Mable bringing up the rear. Mable cautiously, slowly, takes her own sweet time with every step. (Tilt the camera for a sky or tree-top shot.) (Fade-out.)

Scene 15 (Medium). Jack and Judy climbing over somewhat of a precarious spot. Judy slips and throws out an arm to save herself. She falls on the arm and yells with pain as she falls. Jack is instantly at her side and helping her back on her feet.

Scene 16 (closeup). Judy prone. Jack helping her up.

Scene 17 (Medium). Jack supporting Judy as the others gather around. She has hurt her wrist and elbow badly. Under the officious handling of Jack and Jim, they decide that no bones are broken, but when Judy explains the arm is more comfortable in an akimbo position in front of her, because her elbow hurts worse than her wrist, they fix a sling from a huge kerchief for her. Finally the hike proceeds.

Scene 18 (Medium). They have come to a fork in trails. One is an easy way, which is obvious from the looks of the trail; while the other is more difficult, which is also obvious. Undaunted they all want to go the difficult way—that is, all except Mable, who protests in her best lazy, unenthusiastic, Calamity Jane manner.

Scene 19 (Closeup). Mable protesting, but after much argument, and a kiss or two from Jim, she finally acquiesces.

Scene 20 (Medium). All resume the hike up the difficult trail. Despite the dissension, all is serene in the sky and treetops.

Scene 21 (Medium). They come to a difficult crossing place. Jack straddles the spot to aid the girls in crossing, giving special attention to Judy, whose arm is in a sling. Judy, in crossing throws her weight wrong which throws Jack off balance and he falls with Judy on top of him, cushioning her fall. Others gather around and help them up. Judy is unhurt this second time, but Jack has a bad rent in his breeches at the knee. Jack insists that he's not hurt but nevertheless he walks with a definite painful limp throughout the rest of the picture. There is some beautiful scenery at this point, which they all stop to enjoy—the injured fake an enjoyment as sincerely as possible. (Cut-in shots of scenery.)

Scene 22 (Medium). They come to a desirable spot for lunch and rest. (The lunch is optional.) If there are many in the party, something happens to all of them; that is, except Mable, who, although continually protesting, escapes all mishaps whatever. During the luncheon scenes, at the director's discretion, one can injure himself opening a can, or a bottle neck breaks off when attempt is made to remove the top, or a finger is hit driving a nail, or a hatchet inflicts superficial damage while one is cutting wood, or an insect stings or bites one of them, etc.

In most instances an overeagerness, or overenthusiasm, is to blame for each accident. This over eagerness and overenthusiasm must be adequately portrayed in each scene narrating each accident; for each minor but painful accident probably would not happen in the normal environment of one's home kitchen. But today each member of the outing—except Mable, of course—is overwhelmed by the breath of spring and the latter's various caustions, and they all get into trouble. After each troublesome scene it might be wise to show that all trouble exists only among mankind; and interpolate shots of nature in all its serenity—sky, treetops, landscapes, etc.

Scene 23 (Medium). On the return trip they must cross a brook, or marsh, or swamp, and Jim falls in, drenching himself to the waist. He's in such an enthusiastic hurry (nothing's happened to him so far—he's the last, except Mable of course), he loses his footing and in he goes.

Scene 24 (Medium). They all help drag Jim out as best they can with their various injuries hampering them more or less, and unanimously decide

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they must hurry back to the car, or cars, and get Jim out of his wet clothes. They begin their scramble down the mountain. (Fade-out).

Scene 25 (Medium) (Fade-in). They are at the cars. Jim enters from behind some bushes carrying his wet clothes and a blanket wrapped around him from his waist down. He is barefooted, and, as he walks, an occasionally bare leg is revealed through an opening in the blanket. He gets into the car and Mable wraps another blanket around his bare legs and feet. Mable, the only one uninjured in any way, shape, form, or manner, helps them, one by one into the cars. (Insert a closeup of each one as she does so, revealing the individual injuries, for all of which her sympathy in sincerely aiding them is augmented by sarcastic expressions on her face for each one as she tenderly assists them into their seats or otherwise looks after their needs. Her touch is kind and gentle, but her look is one of contempt and scorn. It's her big scene. Heretofore they've all been belittling her.)

Scene 26. (Medium). Finally they are all in the car or cars. Mable is at the wheel of the big open one. It's an unhappy crowd that wends its way homeward as we (Fade-out)

Mr. and Mrs. Marples Film South Seas

(Continued from Page 225)

The harbor of Papeete is the distributing point for the 110 islands constituting French Oceania scattered over a million square miles of the Pacific. Its famous market catering to the needs of the seven thousand persons who comprise the town is open from 5 a. m. until 7 a. m.—two hours. There are no means of refrigeration, and it is necessary to dodge the hot sun.

Striking pictures are shown of an island 350 miles out of Papeete, an island of three thousand acres and 300 feet high. Four hundred persons live here. Departure is taken before dark sets in.

The following afternoon the island of Tubuai is sighted. It was to this island the Bounty mutineers first took their craft—and where they first had to dig trenches the better to defend themselves against hostile natives.

Rarely interesting is the picture presented by the Marples of the feast provided for the natives in honor of a visiting French warship, the Jean de Arc. A long hut has been specially built to protect the guests from the effects of the sun. Many native foods are cooked in Polynesian style on hot stoves.

There are fei (mountain plantain); wrapped in banana leaves are pig, chicken and poi. These are then covered with sand and cooked several hours. So carefully is the food packed that no sand remains on the food.

Farewell Feast

On the screen we see gradually rise the home that is built for the occupancy of the visitors. We see cocoanut converted to copra The manufacture of charcoal, though in lessening volume, is shown. The men bring in from the mountains great bunches of fei, one of the staple foods, weighing 250 or 300 pounds.

When the Marples family announces its coming departure the natives prepare a farewell feast. Again wrapped in banana leaves are pig, chicken, breadfruit, taro, fish, fei and poi, the whole again covered with banana leaves and then with sand. Two hours later the dinner is done. And the record concludes:

". . . And so we will leave these happy people to the glory of enshrouded peaks, of tumbling cascades and violet sunshot gorges, which have lost nothing of their old-time enchantment, for such things partake of the eternal and are impervious to the ravages of time and the encroachment of Western civilization.

"Our journey, which will remain to us a fadeless memory, is ended."

While Mr. and Mrs. Marples hold the South Seas in the front of their memories and their intentions they are planning this fall to make a trip from New York to Florida through the inside passage, a distance of 1500 miles, and requiring two or three months to cover in the fashion they plan. Another destination they are studying is that of Mexico.

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DA-LITE SCREEN MAKES SECOND PRICE REVISION

INCREASING demand for Da-Lite projection screens has made possible another reduction in price—the second reduction in three years.

The Da-Lite Junior Screens which in 1936 ranged in price from $3 to $8 now range in price from $2 to $5 (except in the Pacific Coast States, where prices are slightly higher).

The standard Challenger screen, which consists of a roller mounted screen in a metal case to which a tripod is permanently and pivotally attached, now can be had for as low as $12.50 for the 30 by 40 inch size. This compares with a price of $20 for the same size screen in 1936.

The Model B hanging screens also have been reduced in price, the larger reductions occurring in the larger sizes. The 63 by 84 inch which in 1936 was $45, is now $37.50. The larger square size of the Model B has also been considerably reduced. The 60 by 60 inch, which three years ago cost $28 now can be had for $23.

Da-Lite for thirty years consistently has improved the quality of its products and has always been alert to introduce new features that would bring greater efficiency, more convenient operation and longer service.

Da-Lite Screens are used in prominent theaters throughout the country. Their splendid reflective qualities are the result of this long experience in making screens not only for the theater but for schools, industrial users and thousands of amateur cinematographers.

The recent rapidly growing interest of still photographers in the projection of their miniature pictures, particularly Kodachrome mounted transparencies, has brought a substantial increase in the demand for projection screens. The more experienced these photographers become the more critical are they of the quality of their projected pictures. Because of this, more and more of them have been turning to Da-Lite.

Beginning May 1, prices on most of the sizes of Da-Lite Screens will be reduced. This is the second reduction in prices in the last three years. Because of higher freight rates to Pacific Coast States, prices in that territory are slightly higher than for the rest of the United States.

Readers who want further details should write the Da-Lite Screen Company, 2723 North Crawford avenue, Chicago, for a copy of the new catalog.

Philadelphia Cinema Club

Through the cooperation of the local Eastman Stores we had the opportunity of seeing the new Eastman film entitled "Highlights and Shadows." It is a sound motion picture that brilliantly dramatizes the story of photography.

Following the meeting was given over to editing of member's films so far as it was practical to do so. Splicers and rewinds were provided for the purpose.

At the preceding meeting the members approved changing the constitution increasing our membership limit to 100 regular members. It is expected our new membership limit will soon be reached and maintained.

HORACE WILSON,
Secretary-Treasurer.

RCA Issues Two Carillons

Two new low-cost electric carillon systems, one an instrument which rivals the music of a carillon of twenty-six giant bells and the other a five-note Westminster chime have been announced by the RCA Manufacturing Company.

Designed to take the place of costly, space-consuming bell carillons used in churches, schools, banks, public buildings, and other similar institutions, the new electric carillons are compact and easily operated. They may be installed by connection with any public address system or electric organ amplifying unit.

Littles' Tenth Party Makes Real Hit

(Continued from Page 228)

produced by the "Cinecoles"—Charles and Robert Coles, of New York.

The four films on the latter half of the program were done in full color. "Beyond Manila," by W. G. Hahn, of Baguio, P. I., showed the amazing rice terraces of the Philippine back-country, and included dramatic scenes of a native harvest festival.

"Archbishop of New Jersey," produced by the Photo-Patrons Club of the East Side High School, Newark, N. J., was an excellent film record of the ceremonies which accompanied the elevation of the Most Rev. Thomas J. Walsh, Archbishop of Newark, in April, 1938.

Gets Wild Life Close-ups

Unquestionably the best productions of the evening were "Still Waters," by Fred C. Ells, of Yokohama, Japan, and "A Country Wedding," by Ing. T. Jankowski, of Warsaw, Poland.

Many of the amateur moviemakers who attended last night's show pronounced Mr. Jankowski's "Country Wedding" the finest piece of 16-millimeter color work they had seen. The film has won a half-dozen important awards, including the grand prize of the 1938 contest of the Union Internationale du Cinema d'Amateur.

With a rare combination of charm, good humor and visual beauty, the film showed the marriage customs, feasting, dancing and traditional costumes of a peasant wedding.

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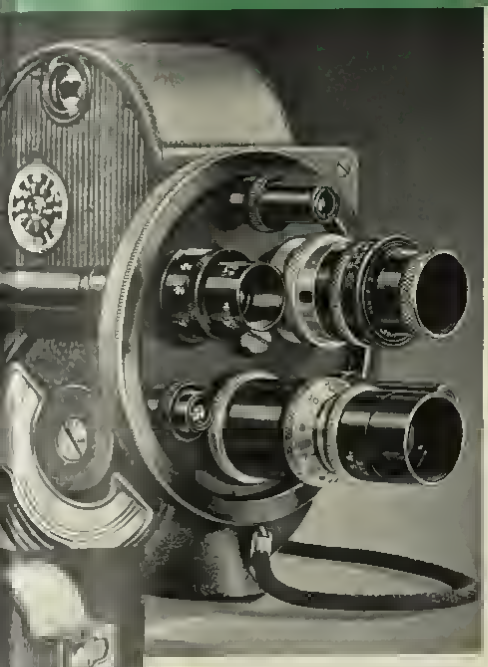

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